A STUDY OF THE LEARNING DISABILITIES OF RURAL CHILDREN

SPONSORED BY

THE NATIONAL COUNCIL
OF
EDUCATIONAL RESEARCH & TRAINING
NEW DELHI

Dr. Y. RAMOJI RAO

THE INSTITUTE OF EDUCATIONAL RESEARCH
MADRAS - 600 017 [INDIA]
1984

A STUDY OF THE LEARNING DISABILITIES OF RURAL CHILDREN

SPONSORED BY
THE NATIONAL COUNCIL OF EDUCATIONAL RESEARCH & TRAINING
NEW DELHI

Dr. Y. RAMOJI RAO

THE INSTITUTE OF EDUCATIONAL RESEARCH

MADRAS - 600 017 (INDIA)

1984.

PREFACE

Interest and knowledge about the field of learning disabilities have expanded at an extremely rapid pace. Growth and change are evident in the areas of research, assessment and parent involvement. However, in India, there is no such growth in the area as the involvement of researchers in this field is not satisfactory and there are no any educational services provided by the schools to these children and no teacher preparation programmes are existent. No legislation is there in the country to take utmost care of these children. This field needs immediate attention of the government, teachers, departments of education and parents in our country in order to bring such children into the main stream of education.

In India, such growth and change should be encouraged in the areas of research, assessment, teaching material, educational services, teacher preparation programmes, legislation and parent involvement.

The approach of the present investigation is eclectic in order to offer the reader a comprehensive view of the problem. The study identified a few basic, learning and behavioural characteristics which would be of utmost use to the teacher who wish to deal with such children.

The present report is presented in five major chapters. Chapter I deals with the theoritical aspect of the problem. Chapter II is an overview of the field of learning disabilities. Methods and procedure adapted to collect data were discussed in Chapter III. The results obtained were presented, analysed and discussed in the ensuing chapter. Chapter V is the summary of findings. A few suggestions made by the author and the educational implications of the study were included in this chapter.

Facilities for the early identification of learning disabled pupils should be provided in all schools in the country. As suggested in the report facilities to impart specialised instructions should be planned by the administrations.

The appendixes are designed to provide useful source and reference material.

The author believes that the study would stimulate teachers, teacher educators and administrators to promote services for children who otherwise have been neglected.

A detailed proposal high lighting the present problem was prepared by me and submitted to the Educational Research and Innovation Committee (ERIC) of the National Council of Educational Research and Training (NCERT), New Delhi. I am highly grateful to the NCERT and especially the ERIC for giving me a research grant to take up this study.

I wish to thank Dr. C.H.K. Misra, the Member-Secretary, who has been kind enough to guide me throughout the period of the present research in many aspects. I am also thankful to Dr. (Miss) E.G. Vedanayagam, Professor & Head, Department of Education, University of Madras and Dr. T.E. Shanmugam, Professor Emeritus, Department of Psychology, University of Madras for their periodical guidance in conducting this investigation.

I am overwhelmed while thanking my research assistamts, Miss V. Mahalakshmi and Miss S. Suganthi, who collected the field data with utmost concern and commitment and helped me in analysing the same. It was a very arduous task for me and to my research assistants to move round the villages to collect data from teachers, pupils and parents. I also thank my personal assistant, Miss P. Jhansi Kumari, who typed the draft report and the final report so patiently and accurately.

I will be failing my duty if I do not express my gratitude to the Headmasters, Headmistresses, teachers and authorities of the department of Education in the Panchayat Union who encouraged the present study by extending their co-operation in all respects.

Finally, I thank all the parents of the pupils who patiently responded to our questionnaire without whose co-operation the study would not have been possible.

RAMOJI RAO, Y.

TABLE OF CONTENTS

CHAPTER PAGE

PREFACE i

I THEORITICAL ORIENTATION 1

Introduction

Historical Perspective of the development of the field

Learning Disability - Defined

Quantifying the Learning Disability

The Need for the Present Study

The Scope

Objectives of the Study

Limitations of the Study

Operational Definitions of the terms used in the Study

The Present Study

Statement of the Problem

II RELATED RESEARCHES 23

Prevalence of Learning Disabilities

Early Identification

The Diagnosis of the Learning Disabilities

Characteristics of Learning Disabled

III METHODS AND PROCEDURE 52

Identification of the Learning Disabled - Tools Used

Sample

Main Investigation

CHAPTER PAGE

IV RESULTS AND DISCUSSION 80

Identifying the Learning Disabled

Characteristics of Learning Disabled

V SUMMARY AND CONCLUSIONS 139

REFERENCES

APPENDIX

I PUPIL BEHAVIOUR RATING SCALE (English Version)

II PUPIL BEHAVIOUR RATING SCALE (Tamil Version)

III PUPIL PERSONAL DATA SCHEDULE

IV ITEM ANALYSIS - VALIDITY INDICES

V ACHIEVEMENT TEST (FIVE SUB-TESTS)

CHAPTER I

THEORETICAL ORIENTATION

INTRODUCTION

The problem we face today in each class room is that of the poor performance of healthy and intelligent children who are neither retarded nor mentally or physically handicapped. These children possess normal vision and hearing and yet for some reason or the other they do not interpret their surroundings as others do. They cannot function in a school environment. They can barely read, write and mathematics throw them into confusion. Yet, their I.Q. measure 130 or above and apparently capable of high quality work. The condition of these children is perplexing. Most probably, a veritable constellation of difficulties may be at fault. Some interpreted that such children demonstrate signs of emotional disturbance because of their learning problems which are created by learning disability. Most of these children have become so accustomed to failure as such there is a need to convince them of the possibility of succeeding. These children exhibit many other behavioural characteristics which may make them disruptive in the classroom and at home. As regards to children with learing disabilities, it is assuemd that there is either a general show down in the progress of development as compared to age peers or that there has been an actual break down at some point. The obvious answer is restore the course of development through remedial or therapentic methods (Kephart, 1967).

Thus besides the visually and auditorially handicapped, the mental deviation, the physically handicapped, the speech defective and the emotionally disturbed, there existed another class of disadvantaged children who are physically unimpaired and intellectually normal but who failed to perceive visually, to process auditory information to talk, read, spell or think adequately. As a result of thorough analysis of the behaviour of these children, a new discipline came into existence which borrowed and integrated insights from psychology, neurology, remedial reading, speech therapy etc. The subjects of this new field were given various names-- children with minimal cerebral dysfunction, children with perceptual handicaps, brain-injured children and children with learning disabilities. The last one, 'children with learning disabilities' has become the most acceptable term since it emphasises the educational character of such disorders.

Review of literature shows that no substantial and significant research work was done in the field of learning disabilities in India. Learning disabilities have been in the centre of the special education stage since 1968, even in the United States of America. Jeanne McRal McCarthy who is well known as a practically oriented educator of children with learning disabilities stated in 1969, "Although the early impetus of the published work of Strauss and

Lehtinen with the brain injured dated from the late 1940's and early 1950's and the work of Orton and dyslexia group dated from 1920's and 1930's, the educational scene remained quite unruffled as late as the early 1960's. It is probably safe to say that in 1960 there were no public school classes for the learning disabled children except for remedial reading programs" (Gearheart, B.R., 1973). Prior to the 1960's only those children who were called brain injured, neurologically impaired, and who needed plans for remedial reading could receive the badly needed special services. The serious remedial reading cases were called dyslexia who had severe reading problems, with tendency to reverse symbols and produce mirror writing.

Since 1960 there was a tremendous change and progress in this area, due to considerable additional research conducted between 1965 and 1970 in the light of the earlier efforts made by several researchers. By 1969, there were twelve states in the United States of America which had legislation specifically mentioning children with learning disabilities and four states used the terms "learning disabilities" or "specific learning disabilities" (Gearheart, 1973). Different other states used different terminology while describing a learning disabled child. California and Colorado used the term "educationally handicapped", Idaho used the term "perceptual impairments",

Navada referred to "neurologically disorders or defects", New Jersey used "neurologically or perceptually impaired", Pennsylvania referred to "brain damage" and Texas used the term "language handicapped". As stated earlier the term, "Leraning Disabilities" has become most suitable and as a result, "a Journal of Learning Disabilities" was first published in January 1968 (Gearheatt, 1973). Awareness of the significance of a learning disability, especially has expanded during the past few years. There is thus at present a growing concern for the child with learning disabilities. In a survey by Tarnopols (1976) who visited 16 countries concluded that they have been impressed by the fact that in every country they have been impressed by the fact that in every country they visited, there was an awareness of both the existence and the needs of intelligent children with specific learning disabilities. In those nations, where no special educational provisions are as yet made to assist these children, many people are attempting to bring this matter to the attention of the appropriate educational or governmental authorities. The survey revealed that most of the industrialised nations have special programmes for these children and it appears that there is a rapidly growing movement to develop similar programmes in many other countries. There is therefore reason to feel optimistic about future developments in helping children with learning disabilities world wide.

HISTORICAL PERSPECTIVE OF THE DEVELOPMENT OF THE FIELD

Learning disabilities as a comprehensive field of study had its beginning in 1947 with the publication of "Psychology and Education of the Brain injured child", by Alfred A. Strauss and Laura E. Lehtinen.

The early work of Strauss on brain-injured child was questioned in the light of new knowledge and insights and later many new concepts and terms were examined and introduced, such as brain-damage, perceptual handicap, minimal brain dysfunction, Strauss syndrome and finally learning disabilities. It may be accepted that the historical development of the field of learning disabilities is nothing but process of building towards a systematic knowledge.

Kirk (1963) was the first writer who used the term "learning disabilities" to describe a group of children who had disorders in the development of language, speech, reading and associated communication skills needed for social interaction. Blind and deaf, mentally retarded and emotionally disturbed children were excluded from this group. Johnson and Myklebust (1967) made a slight alteration to the term 'Learning Disabilities' by introducing the term "Psycho-neurological learning disabilities". In their opinion, the concept that the 'Psychology of learning' is disturbed because of an impairment of the central nervous system. Due to neurological deficit, the learning process of these children is different.

Hence, the term, "Psycho-neurological learning disabilities" assumes the concern with learning and education as well as the medical pathology or etiology. However, the term, 'Learning Disabilities' is mostly accepted by the teachers and parents since it focuss mainly on the educational problem of the children. At present, it appears to be a satisfactory one, as it covers a wide range and diverse type of learning disorders.

The term gradually gained recognition and general acceptance as a result many councils and organizations came into existence. In States, many parent groups were formed to bring the findings of this field to the attention of educators, physicians and legislators.

But no substantial thought and attention has been made to this dynamic field in India, as pointed out earlier, the reasons might be due to lack of attempt and involvement by the educators and researchers. Though we find high percentage of such children in our country, it is rather a great disappointment not to make a thorough attempt to save these children inspite of possessing good resources of men and materials. When our conutry is in a position to establish 'educational consultancy firm' to guide and help the developing countries, it is right time to encourage this field through research, education and legislation so that these sufferers be brought back to the main stream of education.

The object of this study is mainly to point out the importance of this field in order to prevent the drop-out rate at the elementary stage fulfilling the objectives of the universalisation of elementary education in the country.

In the United States, many councils, organisations, such as 'Division for children with Learning Disability' (DCLD), 'Association for children with Learning Disabilities' (ACLD) were established. A congressional bill entitled the "Children with specific Learning Disabilities Act" became law in 1970 as part of the elementary and secondary education's amendments of 1969 (Lerner 1976). This legislation included special programmes for children with specific learning disabilities and authorised provision for research, training of educational personnel and the development of model centres in the field of learning disabilities. The term was thus officially accepted, and as a result much work was contributed by ACLD and DCLD for the benefit of the learning disabled.

LEARNING DISABILITY - DEFINED

Various attempts have been made to identify the population of children with learning disabilities and several dimensions have been considered while defining the term. A brief discussion of different approaches to the problem is added here. It is usual for different disciplines to define conditions on the basis of its orientation and criteria.

It is therefore our main concern to understand the basis under which the children with learning disabilities can be differentiated. Of all the area of special education, learning disabilities is perhaps the most difficult one to be defined. For the purpose of the present study, a few generally accepted definitions are quoted with a brief discussion.

Cruickshank (1967) observes that specific neurological conditions gives rise to dysfunction and refers to these children as "brain injured".

As stated earlier, keeping in view the concept of 'Psychology of learning which is disturbed because of an impairment of the central nervous system. Johnson and Myklebust (1967) referred to these children "as having a psycho-neurological learning disability, meaning that behaviour has been disturbed as a result of a dysfunction of the brain and that the problem is one of altered processes, not of a generalised incapacity to learn". The definitions of Cruickshank and Myklebust may be known as cause-oriented definitions. Those who take the cause-oriented approach look at learning disorders from the perspective attempt to identify the source or etiology of observed behaviour. Clement's (1966), whose definition also is cause-oriented runs the term "minimal brain dysfunction syndrome" refers to children of near average, average or above average

general intelligence with certain learning or behaviour disabilities ranging from mild to severe, which are associated with deviations of function of the central nervous system. These deviations may manifest themselves by various contributions of impairments in perception conceptualisation, impulse or motor functions".

The effect-oriented definitions stress mostly educationally significant factors such as the child's difficulty in academic and learning tasks. Effect-oriented definitions may include a list of other children with special needs who are not considered learning disabled. For example, Kirk's definition emphasises disability on one or more of the learning processes. According to him a learning disability defers to a retardation, disorder or delayed development in one or more of the processes of speech, language, reading, spelling, writing or arithmatic resulting from a possible cerebral dysfunction and/or emotional or behavioural disturbance and not from mental retardation, sensory deprivation or cultural or instructional factors.

Another emphasis in the identification of the learning disability population is on the irregular development of mental abilities. The growth in the various areas may be uneven and inconsistent. Myers and Hamill (1969) called this as the "principle of disparity". Gallagher (1966) stressed on such developmental imbalances in identifying the population of such children. Gallagher defined children with developmental imbalances as those who reveal a developmental disparity in

psychological processes related to education of such a degree (often four years or more) as to require the instructional programming of developmental tasks appropriate to the the nature and the level of the deviant developmental processes. Bateman's (1965) definition also stressed the "principle of disparity" and 'disorders' in the basic learning processes. In her view, children with specific learning disabilities manifest an educationally significant discrepancy between their estimated intellectual potential and actual level of performance related to basic disorders in the learning processes, which may or may not be accompanied by demonstrable central nervous system dysfunction and which are not secondary to generalised mental retardation, educational or cultural deprivation, severe emotional disturbance or sensory loss. She used the criterion of a significant discrepancy between what the child is potentially capable of learning what is fact has been learned while defining the learning disability.

Another criterion used to define the term is by exclusion. That is, the children who are called learning disabled, do not primarily fit into any other area of eaceptionality. In other words, these children are not primarily retarded, emotionally disturbed, culturally deprived, rather sensorially handicapped. This criterion is encluded even in the definition of Johnson and Myklebust (1967).

Several committees were formed to draw up a meaningful and acceptable definition. In 1968 the National Advisory Committee on Handicapped children formulated a most widely cited and accepted definition as stated here.

"Children with special learning disabilities exhibit a disorder in one or more of the basic phychological processes involved in understanding or using spoken or written languages. These may be manifested in disorders of listening, thinking, talking, reading, writing, spelling or arithmatic. They include conditions which have been referred to as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, etc. They do not include learning problems which are due primarily to visual, hearing or motor handicaps to mental retardation, emotional disturbance or to environmental disadvantage.

Allan O. Ross (1977) defined a learning disabled child as : a child of atleast average intelligence whose academic performance is impaired by a developmental lag in the ability to sustain selective attention. Such a child requires specialized instruction in order to permit the use of his or her full intellectual potential.

According to this definition, a learning-disabled child is neither damaged nor permanently impaired. The disability is an inability to make use of the unspecialised instruction usually found in the typical classroom. Given proper and specialized instruction, the disability disappears. The

problem is thus an educational problem, not a psychological problem or a medical problem. The responsibility for helping these children ultimately rests with the educators, for a learning disability is not so much a lack in the child's ability to learn as it is a lack in the educator's ability to identify and teach children with special educational needs.

Allan adds that this is not an attack on teachers, for it is not a matter of assigning blame but of pointing out that all too little is known about learning disabled children and that the little that we do know has not been adequately disseminated.

An analysis of these definitions lead us to several conclusions and generalisations. Most of the definitions indicate that there must be a significant discrepancy between the actual level of performance and the level that might be expected in terms of his intellectual potential and his sensory capacity. The definition included in this chapter excluded the visually disabled, the auditorially handicapped, the emotionally disturbed and the mentally retarded. The culturally disadvantaged are also excluded from the learning disabilities category by definitions.

A close look at the accepted definitions of the learning disabilities reveal that there are three mandatory characteristics by which we can identify the learning disabled. They are 1) they must have average or above average intelligence,

2) they must have adequate sensory acuity, and 3) they must be achieving considerably less than the composite of their I.Q., age and educational opportunity, which is referred to as a significant educational discrepancy.

Keeping the above three mandatory characteristics in view, first, the children with learning disabilities are identified. Many of these children who fit the three mandatory characteristics may exhibit many more other characteristics also, the identificantion of which is the main aim of the present study.

It may therefore be obvious that combination of these various characteristics lead to real problems for the child and to a diagnosis of learning disabilities.

QUANTIFYING THE LEARNING DISABILITY - THE LEARNING DISABILITY SCORE

Teachers judgement of behavioural characteristics of children has proved to be most reliable technique to identify children with learning disabilities. For this purpose, rating scales are the most suitable scales, one such scale being used by teachers in Aurora, Colorado which is presented in Gearheart (1973). This is the most fitting technique that could be used for the diagnosis of the learning disabilities of pupils. Bureau of Neurological and Sensory Diseases developed a Behaviour Rating Scale under a United States Public Health Services grant which scale of adapted by teachers in Aurora (Gearheart 1973). In the present study, this scale is adapted

1) to quantify the learning disabilities, and 2) to study the characteristics of the learning disabled children who are identified by their fulfilment of the three mandatory characteristics as explained earlier in the chapter.

The scale consists of 24 items and is used in assess areas of behaviour that cannot be measured by standardised group screening tests. The teacher is asked to rate the child on the five areas of learning and behaviour on a 5-point scale. A score of 1 represented the lowest rating of function, a score of 5 represented the highest and a score of 3 was considered average. Thus the highest total score is 120. As stated by Lerner (1976), the mean score reuqired by children identified as normal is 81, while the mean score of the learning disabilities group is 61. While studying the learning and behavioural characteristics of the pupils identified as learning disabled, this scale further confirms the learning disability of these children who are identified earlier, through the three mandatory characteristics stated above. This rating scale is exclusively constructed for elementary level students to be filled by teacher. Thus the scale is chosen for the present study which is carefully translated into regional language for easy understanding by the elementary school teachers of the present study. A detailed account of the scale will be presented in a later chapter.

THE NEED FOR THE PRESENT STUDY

As stated, there is growing concern for the child with learning disabilities. In every country, there is awareness of both the existence and the needs of intelligent children with specific learning disabilities. Many people are attempting to bring this matter to the attention of the appropriate educational or governmental authorities.

The investigator, in the light of the literature reviewed, is of opinion that if this area is neglected, the country may face high drop out rate of pupils at the elementary stage of education, which would be the major defect in achieving the goals of universalisation of education. There is also a possibility for these children to become Juveniles. In a study in the United States, it was observed that between 85% and 90% of all Juveniles sentenced to correctional facilities suffered from clinically provable learning disabilities.

Review of literature shows that no substantial and significant research work was undertaken in the area of learning disabilities. There is a great dearth of proper statistical data to show the increasing evidence of learning disabilities among pupils in India. The pupils with learning disabilities are generally ignored and passed unnoticed until they become drop-outs or deliquents as stated above.

Hence, under such circumstances, a study such as the present one is justified in the realm of educational researchers. Such a study may help to remove many illusions about the learning problems of pupils and promote better understanding of their maladjusted behaviour. The study would also enable the educators and administrators to identify them earlier and to plan suitable programmes in the light of the characteristics studied to transform them into children who can learn readily and function happily.

THE SCOPE

The current research aims to identify the learning disabled pupils hailing from rural area of Tamil Nadu. The investigation was conducted in rural area, since the project undertaken is the study of the learning disabilities of rural children. The study was conducted on pupils with ages ranging from 9 to 11 years studying V std. in twenty different schools in the Chittalapakkam Panchayat Union area, Chingleput District of the State of Tamil Nadu. This age group has been chosen, since during these earlier ages, the child's own basic potentials express themselves more clearly and are less overlaid by the Secondary effects of experience of success or failure than in older children (Louise Bales Ames, 1968).

The investigator further aims to study the characteristics of the learning disabled children identified in the present study. The investigator used 1) Pupils Personal Data Schedule and 2) Pupil Behaviour Rating Scale to collect data.

Since the scale covers exhaustively the beahviour and learning problems of pupils, the author is justified in using the above scale which deals with five areas of behaviour and learning, namely, auditory, comprehension and listening, spoken language, orientation, behaviour and motor. Further, the scale is used to assess area of behaviour and learning that cannot be measured by standardised group screening tests. It is also known that one of the most important techniques for diagnosis in learning disabilities is the Pupil Behaviour Rating Scale.

Attention has been focussed to study 50 high-risk learning disabled cases to understand their learning and behaviour pattern.

The author could not make any study of drop-outs in comparison with the identified learning disabled pupils as regards to their characteristics, since sufficient number of drop-outs were not available at all places of the sample. Most of the drop-outs were not found in the villages and the teachers also could not give reliable information about them as they lost touch with them. Hence the study has not made any study on the drop-outs in the rural area.

Finally, this investigation has been devoted to conduct extensive study on learning disabled pupils of the above rural area to understand their learning and behaviour pattern so that the findings may be meaningful for proper implementation by the policy makers, administrators, teachers and teacher-educators into out educational system. It is hoped, that

this study would enable the above involved persanalities to identify the learning disabled children early and bring them back to the main stream through thorough understanding of their characteristics.

The present study is a depth study of 50 pupils of both sexes identified as learning disabled. The author hopes that the study would throw adequate light on the problem.

OBJECTIVES OF THE STUDY

1) To identify rural children with learning disabilities.
2) To study the learning and behaviour pattern (characteristics) of the learning disabled children.

LIMITATIONS OF THE STUDY

1) The present study is limited to Chittalapakkam Panchayat Union area, Chingleput District, State of Tamilnadu.
2) The study is limited to only V Standard pupils of the above area of age group 9-11 years.
3) The study is limited to only the pupils identified as learning disabled by the author in the present investigation.
4) No drop-outs are under study.

OPERATIONAL DEFINITIONS OF THE TERMS USED IN THE STUDY

1) LEARNING DISABILITY : The definition by Gearheart (1973) is used in the present study. Learning Disabled is defined as the one 1) who have average and above average intelligence,

2) who have adequate sensory and auditory acuity, and 3) who achieve academically less than the composition of their intelligence, age and educational opportunity.

2) AVERAGE AND ABOVE AVERAGE INTELLIGENCE : Those whose score on Raven's Progressive Matrices Test is at or more than 50th percentile are considered to be average and above average intelligent for the purpose of the present study.

3) ADEQUATE SENSORY AND AUDITORY ACUITY : Those who have normal vision with or without glasses as per the prescribed norms and those who have normal auditory acuity as per the prescribed norms are considered in the sample. In the present study, no special attempt is made to measure these parameters as all the children are formed to be normal as per the health records of the school. As per the rules of the State Government, no child with any defect in vision or hearing will be admitted in these normal schools. There are special schools in the state for the blind and the deaf.

4) ACADEMIC ACHIEVEMENT CONSIDERABLY LESS THAN THE I.Q., AGE, AND EDUCATIONAL OPPORTUNITY : Those who score on the composit Achievement Test developed by the Investigator for the purpose of the present study lies at or below the 25th percentile are considered to be definitely below average in academic achievement. Since these children at the same time scored greater than the median on Raven's Progressive Matrices Test, they are average and above average in intelligence.

They belong to the same group as that of the high achievers in the sample and they have the same educational opportunities as others have in the sample. Hence the academic achievement of these children is considerably less than the composite of their I.Q., age and educational opportunity.

5) EDUCATIONAL OPPORTUNITY : The availabilities of school in the village is considered to be the minimum educational facility. The provision of minimum educational facility, mid-day meals, free text books and parents interest and trained teaching staff would be considered as the EDUCATIONAL OPPORTUNITY to the pupil for the purpose of the present study.

6) RURAL AREA : Any area coming under any Panchayat Union in the State of Tamil Nadu is considered as rural area in the present study.

7) CHARACTERISTICS : By characteristics, we mean the learning and behaviour pattern of any learning disabled pupil. In the present study, the dimension of the aspect of the area of behaviour and learning in PUPIL BEHAVIOUR RATING SCALE under which 50% or more than 50% of learning disabled pupils identified in the study fall is considered to be the notable or significant characteristic of the child.

8) HIGH-RISK LEARNING DISABLED PUPIL : The pupil who scored a score of 36-59 on the Pupil Behaviour Rating Scale is considered to be a high-risk learning disabled pupil for the purpose of the present study.

THE PRESENT STUDY

In the present study, it has been theorised that the early identification of high-risk learning disabled children and early compensatory training programmes will be a means of preventing later learning problems. Thus using established guidelines, an attempt is made to identify such children in the present study keeping the above theory in view.

Secondly, many attributes of the child are inadequately identified. Skillful diagnosis is necessary to detect many of these characteristics. A skilful observer should determine whether a particular behaviour of a child is characteristic of children with learning disabilities. Generally, children with learning disabilities are a heterogeneous group.

Direct and structured observational techniques are found to be more appropriate in behavioural approach to teach children with learning disabilities in order to obtain data for measuring the child's behaviour and to determine a base line of initial behaviour, and finally to determine and measure those events that appear to modify behaviour. The data should be obtained thus through such detailed quantitative observation.

In the present study, an endeavour is made to obtain data through teacher's observation of children using a behaviour-rating scale. Since teacher judgement of behavioural characteristics of children has proved to be a reliable technique, such technique is used in this investigation to study the learning and behaviour pattern of the learning disabled children.

Thus the aim of the present investigation is to identify the learning disabled pupils and further to study their characteristics, behaviour and learning.

STATEMENT OF THE PROBLEM

The present investigation intends to identify the learning disabled pupils hailing from rural population using the established guidelines, and further to study their learning and behaviour characteristics which would guide the educators and administrators to prevent such learning problems at a later stage. Thus the problem under investigation is "A Study of the Learning Disabilities of Rural Children".

CHAPTER II

RELATED RESEARCHES

Inte Interest and knowledge about the field of learning disabilities have expanded at an extremely rapid pace. Growth and change are evident in the areas of research, assessment and parent involvement. However, in India, there is no such growth in the area as the involvement of researchers in this field is not satisfactory and there are no any educational services provided by the schools to these children and no teacher preparation programmes are existent. No legislation is there in the country to take utmost care of these children. This field, thus needs immediate attention of the government, teachers, departments of education and parents in our country in order to bring such children into the main stream of education.

The present investigator feels that there should be programmes for early childhood and adolescents with new concepts of delivery systems including main streaming and legislation by the states to save these children. The condition of learning disabilities is perplexing, since these youngesters exhibit pne or more behavioural characteristics that make them disruptive in the class room and at home. Early identification of learning disabilities, as pointed out earlier can shorten the time required to remediate a problem. It may thus help us to prevent the above said mal-adaptive behaviour patterns or any inefficient motoric responses, if identified earlier.

The present chapter review the literature available to understand the problem in full spectrum so that substantial research work could be undertaken in the country to tackle the problem with full involvement.

PREVALENCE OF LEARNING DISABILITIES

The investigator attempted to review the views of professionals from a few selected countries regarding the problem of intelligent children who have great difficulty in learning in a normal school situation. Tarnopol and Tarnopol (1976) edited the book "Reading Disabilities - and International Perspective", which is highly valuable one, especially to the developing countries as the book covers the incidence of learning disabilities in intelligent children and the remedial steps taken in the more advanced nations.

Estimates of the prevalence of learning disabilities vary widely because of the lack of criteria in determining which children are learning disabled. Kass and Myklebust (1969) estimated that 3 to 9 percent of the school population is learning disabled. Vallett estimated in 1970 that 8 to 17 percent of school children are learning disabled. Valett pointed out that most of these children's problems are of mild severity which can be handled in the regular class room by modifying the instructional programme and providing supplemental resource and tutorial programme.

Walzer and Richmond (1973) reported that learning and behaviour disorders are 3 to 10 times more frequent in males than females. They could not point out any reasons for this difference. Tarnopols also reported that because of lack of internationally accepted tests, they found it very difficult to estimate the relative extent of learning disabilities in various countries. They, however noticed that the percentage of non-retarded children with learning disabilities ranged from 1% in China to 33% in Venezuela. Australia reported 10-25% and Argentina 14.7%. It is observed that countries like Austria, Czechoslovakia, Denmark, the Netherlands, Norway, Sweden and the United States have legislation to provide special education for non-retarded children with learning problems. Most of the countries surveyed by Tarnopols reported that the ratio of boys to girls with such disabilities as three to one.

Lerner (1976) points out that a variety of estimates of the prevalence of children who suffer from learning disabilities has been made, ranging from 1% to 3% of the school population, depending upon the criteria used to determine the disability. The identification criteria used in the study of Myklebust and Boshes (1969) was based on educational discrepancy definition of learning disabilities. The school population was screened by administering a battery of psycho-educational tests. 15% of the research population were identified as under-achievers. By using stringent criteria, they further

identified that approximately one-half of those initially identified fell into category of learning disabled. In this study, the prevalence of children with learning disabilities was determined to be 7 to 8 percent.

National Advisory Committee on Handicapped children (1968) in their report to Congress recommended that 1 to 3 percent of the school population be considered as a prevalence estimate. The report however, expressed that further research in the area should provide objective criteria for identifying these children more clearly.

Kirk (1974) explained that many were puzzled with the estimates of 20 to 39 percent of the public school children as learning disabled. The study concluded that this prevalence is so high that this area to be truly considered as an area of special education.

Texas, the first state which undertook a project identified 2,500 as learning disabled, which can be translated into a prevalence rate of 5 to 6 percent (Lerner, 1976).

Three Australian reports pointed out to an incidence of 10% of otherwise fully capable children who have a disability severe enough to require special help. A reading attainment survey of 31,000 children by the Education Department of Victoria in 1971 showed 14.7% of these children were of above average intelligence who may have been retarded less than 3 years in reading (Dudley Hagger, 1976).

In Belgium, during the 2 years of observation, out of nine children, seven (78%) were able to attend ordinary school with auxiliary help, two (22%) required full time special teaching for 1 year, after which they went back to the ordinary school (Marianne Klees, 1976). In Denmark (Jansen and Hansen, 1976), it is estimated that a prevalence of 5% reading retarded pupils gives an incidence of about 15 to 20%. In this study, prevalence is defined as the percentage of pupils who have received special education during the total school year. A 1972 study of the incidence of reading retarded pupils during the first 7 grades in a copenhagen suburban municipality gave an incidence of 24.2%. During 1969 and 1971, two different studies were made in the subruban copenhagen municipalities, showing that the number of elementary school pupils with behaviour disorders severe enough for special education range from 2 to 2.5%. There was a high predominance of boys with serious behaviour disorders. The portion of girls to boys is respectively 1 to 3 and 1 to 6 in the two studies.

According to an investigation made in Finland, 14.8% of the elementary school pupils of classes II to VII were indeed of extra instruction in reading andwriting. In Great Britain, in a study, it was found that by 9 years of age, children who were severely backward in reading and were of average intelligence represented 1.2% of the population. This group

was mainly composed of boys. There was a large group of moderately backward readers which represented 5.1% of the total population. In the United States, the prevalence of learning disability was estimated to be about 3% (Tarnopol and Tarnopol, 1976).

At this stage, it would be very interesting to note that the number of children with learning disabilities as estimated by studies such as the North Western Project (Myklebust and Boshes 1969) is much larger than the number of children with any other kind of handicap. The study also found that the problem appears in boys four to six times more often than girls. Walzer and Richmond (1973) reported that learning and behaviour disorders are 3 to 10 times more frequent in males than females.

The above brief review of the prevalence of learning disabilities reveals that whatever the prevalence is finally determined, there are certainly several children in every class room who can be identified as children with learning disabilities. Such authentic estimates of prevalence are not available in the Indian culture. The present study would attempt to estimate such prevalence in India and the ratio of boys and girls that face learning and behaviour disorders. The prevalence figures cited above though are only estimates, they are very important for programme planning. However, many such children may be, it is the easy identification and provision of appropriate services that

matters much and that should be the foremost thought in the minds of researchers, teachers and administrators.

EARLY IDENTIFICATION

A recent concern of parents and teachers is the early identification of children with potential academic learning problems in order to provide them the appropriate preventive services. Many states in America passed even laws to assure schools to develop programmes to identify potential failures and provide them with preventive services. Lerner (1976) remarks that the sooner the high-risk learning disabled children are recognised, the greater the chance of preventing failure.

Researchers pointed out that the children with learning disabilities were identified primarily in the elementary school are period (Keogh 1970, Buksenica 1971, Denhoff 1972). Eric Denhoff and others(1971) state that learning disabilities of their effects are present from the earliest years and often persist into adulthood. They are most visible during the elementary school grades in the form of deficiencies in reading, calculating and spelling. They recommended that a comprehensive approach to learning disabilities must start as early in life as possible. The need for handling the potential learning disability child from the earliest age possible is high-lighted by the fact that significant behavioural and learning adjustment to the environment occur

from birth when the child begins interacting with his environment. By such early identification, the child can be provided with a broad range of skill, cognitive and adjustment stimulation. Most special educators believe that effective early identification is critical that it may accomplish much in preventing or reducing learning disorders.

i) PROGRAMMES FOR EARLY IDENTIFICATION

Lerner (1976) summarised a few established guidelines available to aid in the development of early identification programmes. However, these programmes are still in the developmental and experimental stages. The phases of the programmes have been described as 1) screening to identify high-risk children, 2) intensive diagnosis of selected children to determine the nature of the problem and make further referables if necessary, 3) placement of some children in a developmental disabilities class for further observation and teaching, and 4) making decisions for further educational placement. The author expressed the problem encountered in this approach include 1) finding such children in the surrounding geographical area, 2) notifying all parents that such services are available, 3) encouraging the parents to bring children for initial screening, and 4) informing the parents of the results of the screening procedures.

ii) TESTS FOR EARLY IDENTIFICATION OF LEARNING DISABLED

For the screening phase of early identification programmes, a research project known as "Developmental Indicators for the Assessment of Learning " (DIAL) was conducted by Mardell and Goldenberg (1972, 1975). The DIAL Screening Test was used to develop a system for observing and recording behaviour of children between the ages 2½ and 5½. The test was designed to be administered by well trained professionals and para-professionals. It assesses many areas of behaviour, namely, 1) Sensory, 2) Motor, 3) Affective, 4) Social, 5) Conceptual, and 6) Language (communication). It takes 25 to 30 minutes to administer the test to each child. The DIAL Test was used to test 4,423 pre-school children in Illinois. The authors expressed that the instrument proved to aid in the identification of high-risk pre-schoolers.

Besides DIAL, a few other Tests for early identification screening of pre-school age children have been developed, which includes Meeting Street School Screening Test, Early Detection Inventory, Boehm Test of Basic Concepts, Evanston Early identification Scale, Peabody Pictures, Vocabulary Test (Lerner, 1976).

The review presented here under the early identification of the learning disabled reveals that children might suffer the consequences of school failure because their learning deficiencies were not detected at pre-school or atleast at

primary school level. As pointed out earlier in Chapter I, if this area is neglected, there is the possibility of facing heavy drop-out rate of pupils at the elementary stage of education, which would be the adverse reaction to the objectives of the Universalisation of education. In a study, it was observed that between 85 and 90 percent of all Juveniles sentenced to correctional facilities suffered from clinically provable learning disabilities since they were not identified earlier. In another study conducted at the States at National level, it was found that if the learning disability condition is not diagnosed before the child enters the third grade, he has 80% chance of correcting his handicap, but if the diagnosis is not made till fifth grade, his chances drop to 40%. This shows that earlier we identify the learning disability, the more we can accomplish.

In the light of review, the present study is designed to study in India the percentage of such learning disabled at the elementary stage. With this objective only, elementary stage pupils of V Standard of age group 9-11 years is chosen as sample. There are no specific standard Tests in our country as quoted above to identify learning disabled at an early stage. The present investigator adapted Pupil Behaviour Rating Scale (Lerner, 1976) to study such disability as no other Test suitable to Indian culture is available. The Test is slightly modified and translated into regional language,

keeping the validity and reliability of the test for the present study in view. Due to some time factor, the investigator could not develop a Test himself. However, it is hoped that the above scale used in the study, which touches all the areas of behaviour and learning problems would reveal authentic and significant results. As reviewed in this chapter, there is not proper legislation to identify the and protect this unfortunate lot of children in our country. An attempt would be made to suggest for such legislation in the light of the results observed in this study.

THE DIAGNOSIS OF THE LEARNING DISABILITIES

The purpose of the diagnosis to collect and analyse pertinent information concerning a specific child to make crucial decisions about teaching in order to improve the child's learning (Kirk, 1971, Bateman, 1965). For an educational diagnosis, the child may be referred to several sources, the school, the physician, the parents and some other professionals like psychologists who has contact with the child (Lerner, 1976).

In the words of McGrady (1974), the phases of the total evaluation within the school are 1) an identification process to detect pupils who may be learning disabled, 2) the actual diagnosis of children who have been identified in the screening process, and 3) the decision about the appropriate services and instructional methods. According to these phases, once suspected pupils are identified, the actual

selection of pupils for a more intensive diagnosis is made. Phase three includes placement and instructional decisions about teaching.

The steps in the process of diagnostic evaluation have been described by Kirk (1972) and Bateman (1965). Children with learning disabilities are a heterogeneous group. The wide range of both degree and type of learning disorders requires a diversity of approaches and of diagnostic techniques. Lerner (1976) summarised the steps agreed by most authorities in making diagnosis. The steps included 1) to determine whether the child has a learning disability, which reveals whether there is any discrepancy between what child is actually learning and what the child ought to be learning, 2) to measure the child's present achievement, 3) to analyse how the child learns, 4) to explore why a child is not learning, 5) to interpret data, and 6) finally to develop a plan for teaching. The above process of diagnosis helps one to explore all the possible causes of the learning problems as well as the contributing factors, such as, emotional, environmental, psychological, etc. Clusters of factors and characteristics identified would lead to a useful analysis and a practical teaching plan. The present investigator also pays an attention to identify such factors which influence learning disability among the pupils identified.

Goodman (1976) outlines a step-by-step procedure to identify the learning disabled. The criteria for the diagnosis and the selection of learning disabled pupils in operational terms as prescribed by Goodman are: 1) the pupil should demonstrate a full scale intellectual quotient of 90 or better on the Wechster or Stanford-Binet Scales. 2) The student is deficient in specific cognitive areas. 3) The student's academic performance must lag 2 or more years behind his actual grade placement in basic maths and language skills. 4) The student must not suffer from sensory deficiencies, physical impairments. 5) The student suffers some degree of neurological dysfunction. While suggesting the step-by-step procedure to identify the learning disabled people, Libby, Goodman and Lester Mann used the above criteria. The steps suggested are :

STEP 1 : Is the student free of problems of a sensory, physical and emotional?

STEP 2 : Does the student possess average intellectual ability?

STEP 3 : Is there any evidence of cognitive disabilities?

STEP 4 : Is the student's academic performance significantly below standard?

STEP 5 : Is there any evidence of neurological dysfunction?

OBTAINING DATA FOR DIAGNOSIS

Authentic data should be collected for the purpose of accurate diagnosis of the learning disabled child. To obtain data for diagnosis, Lerner (1976) suggested four major ways:

1) A case History or Interview method,
2) Clinical observation,
3) Informal Testing, and
4) Formal Standardised Testing.

In practice, these four methods are not seperated. They are often accomplished simultaneously. A brief description of the above methods in terms of the author is presented here.

1) CASE HISTORY METHOD

The case history method provides information about the child's background and development. Such information is usually obtained from parents. The case study requires a skillful interviewer to obtain maximum amount of usuful data. In this type of study, the interviewer's attitude should convey a spirit of co-operation, acceptance and empathy to guard against excessive emotional involvement and consequent effectiveness. He should be careful not to ask questions that might alarm parents. The skillful interviewer should gather information in a smooth and conversational manner. The case study data may be integrated later with the information obtained otherwise.

Lerner (1976) suggested that the following data may be obtained through such study : the child's pre-natal history, birth conditions, the child's general background and health, the child's age when developmental milestones such as sitting, walking, toilet, training and talking were attained, the child's health history, including illness and accidents. The child's present activities such as using pencils, crayons, riding bicycle, listening to stories, use of language for intelligent expression, etc. may be ascertained. Case history form may be prepared to collect data relating to 1) Identifying information which includes child's name and names of father and mother with their occupation and income along with detailed family information. 2) Birth history consisting pregnancy, birth conditions and conditions following birth. 3) Physical and developmental data related to health history,present health, developmental history, etc. 4) Social and personal factors, and 5) Educational factors such as school experiences, pre-school education, child's attitude towards school, etc. He pointed out that no one case history form will be entirely suitable without revisions and modification from one clinical setting to another. He suggested that each diagnostic centre must develop a form that meets its own needs and provides the information it desires.

In the present study, such information as described above was collected through a specially prepared schedule "Pupil's Personal Data Schedule" (PPDS), which will be described in the ensuing chapter. The data will be used while discussing the characteristics of the learning disabled and describing the 50 case studies.

CLINICAL OBSERVATION

A skillful diagnostician can identify adequately many attributes of children through his personal observation of their behaviour and through the proficient use of informal tests. For example, Motor co-ordination and development can be assessed by observing child's movements. Similarly, one can informally assess the child's use of language. Lerner (1976) hints that games, toys and informal activities are useful to the diagnostician to build up rapport with the child and aid in making informal clinical observation. Wallace and Kanffman (1973) rightly pointed out that many of the clues that can be used in planning the instructional programmes are best detected by observing the pupil's every day class room behaviour. Information gathered through observation by the teacher in that classroom proves to be a valuable data in the diagnosis. Teacher's observations of children are often recorded in a behaviour rating scale Lerner, 1976). These scales are supposed to record the teacher's judgement or impressions of the child in a measurable fashion. Teachers involved in one study in one study (Myklebust and Boshes, 1969) were asked to judge 24 behavioural

characteristics of children by rating them on a 5-point scale, The characteristics rated were : 1) Auditory comprehension, 2) Spoken Language, 3) Orientation, 4) Behaviour, and 5) Motor. A score of 1 represented the lowest rating of factor, a score of 5 represented the highest, and a score of 3 was considered average. The mean score on this scale of children identified as normal was 81, while the mean score of learning disabilities group was 61. Brayan and Mc Grady (1972) also expressed their opinion that Teacher Judgement of behavioural characteristics of children has proved to be a reliable technique for identifying children with learning disabilities and specially rating scales have been found to be useful instruments. A Behaviour Rating Scale used by teachers in Aurora, Colorado is presented in Learning Disabilities : Educational Strategies by Gearheart (1973).

In the present study, the investigator is justified in adapting the Pupil Behaviour Rating Scale presented in Gearheart after taking necessary precautions in confirming the disabilities of children identified by the mandatory characteristics arrived at through the operational definition explained in the earlier chapter. The rating scale used in the study not only will help the author to identify learning disabled but also would lead to study most significant characteristics of these children which affect their learning. All the behavioural characteristics described in the scale, 1) Auditory comprehension, 2) Spoken language, 3) Orientation, 4) Behaviour and 5) Motor will be discussed at full length in Chapter IV.

INFORMAL AND FORMAL TESTING

A number of informal non-standardised tests like 'Informal Reading Inventory', 'Informal Graded-word recognition Tests', and 'Informal Arithmetic Tests' are extremely useful in diagnosis (Johnson and Kress, 1965), (Bormith 1968, Durell 1956).

Formal standardised tests are used in the diagnosis of performance in particular aspects of learning. Norms for this tests should be standardised on a large population and statistics relating to reliability and validity should be available. The investigator should have sound foundation in the techniques of using and interpreting Tests, failing which, necessary information cannot be yielded. Many such Standard Tests were developed abroad (Wachsler Intelligence Scale for Children, Raven's Progressive Matrices, California Achievement Tests, Iowa Every-Pupil Tests for Basic Skills, the Stanford Achievement Test, Gates Mac Ginite Reading Test and several other Motor Tests, Language Tests, etc.) but though a few such Tests are available in Indian Culture, they have got to be modified or separate norms to be developed due to inter-cultural differences in the country for the purpose of any particular study.

Othmar Kowarik (1976) in his paper on Reading-Writing problems in Austria pointed out that a diagnostic evaluation must include 1) HISTORY TAKING : (illness, speech development,

family trends), 2) DEVELOPMENT IN SCHOOL : (grades, including those of previous years, teacher's reports, behaviour, present achievement level), 3) LATERALLY TESTS : (hand, eye, leg), 4) INTELLIGENCE TEST and DIAGNOSTIC ACHIEVEMENT TEST. Gorriti and Muniz (1976) believe that a carefully taken history of each child's psychological, educational and medical background is of utmost importance for arriving at a working diagnosis. They paid particular attention to the child's motor development, its sequence, and any interference with its normal development. In the school history, the child's first contact with school is considered most important. A teacher's report is generally requested with the observations of the child's class room behaviour and attitude towards learning. They suggested that a visit by the investigators to observe the child in the class room and on the play ground would reveal the actual behaviour of the child. If necessary, they wanted to perform a neurological evaluation for "soft signs" and a psychiatric evaluation, including projective tests. In their study, they used Maturational Test for Reading and Writing to evaluate a number of different learning functions, WISC Test to measure intelligence and Bender Visual Motor Gestalt Test to evaluate Visual-Motor Co-ordination. They also evaluated several other factors like spatial orientation, time orientation, muscle co-ordination, etc.

In Australia, the use by teachers and even specialists of diagnostic tests is discouraged. In Victoria, their use by other than registered psychologists is illegal (Dudley Hagger, 1976). It is noteworthy that many Australian workers in the field of learning difficulties express great concern that emphasis in planning should be put on prediction or recognition or affected children during their first weeks at school, with a view to prevention of the worst effects of school failure. An understanding of motivation and family dymamics tends to be regarded by Australian workers as being a major importance in handling intelligent under achieving children. In this country, in exceptional cases, an individual diagnostician would take the help from a member of a medical discipline such as psychiatry, neurology, pediatrics or opthalmology. The EEG is rarely used for the investigation of learning disabilities, except for research purposes. It is understood that professions other than the psychology and speech therapy, there is no special training available in diagnosis of learning disabilities in this country.

In Czechoslovakia, Zdenvek Materjcek (1971) in his paper remarks that the diagnosis of learning disability begins with the taking of a detailed history, especially directed to questions of heredity and early cerebral damage. This is followed by pediatric and neurological examination including EEG. He suggested that extensive psychological testing

should be focussed on mental functions which may be involved in the reading disability. Great stress should be placed, it is understood, especially on the examination of visual and auditory perception, the reproduction of rhythmic patterns, motor functions, handedness and right-left orientation.

Danish society is socially, culturally and economically relatively homogeneous. It is thus natural to evaluate a pupil's reaction to the demands on him. In Denmark, the school psychologist is expected to know whether the child has teacher who is right or wrong person for him, whether his school-mates help him or have a bad effect on him, whether he has good friends or not and so on. The child's way of functioning at school becomes a key factor in the diagnostic procedures (Jansen, Hansen, et al.).

In Finland, the ideal situation is one where the physician, psychologist and special teacher each makes his own investigation for every child who has learning disabilities (Raija Syvalahti, 1976). In London, there are centres for diagnosis which are attached to a hospital, but are supplied with teachers by the London Schools. There are certain centres specialising diagnosis and remediation of learning problems which are run by voluntary organisations. Children are average in intelligence who are having difficulty in learning were referred to these centres. Beth Gessert (1976) in his paper on specific reading difficulties in Great Britain points out

that in the United Kingdom, detailed records of a child's development are kept from birth. There is a general agreement in the country that the younger the age at which children with physical, mental or emotional disabilities are discovered and fully assessed, the more hopeful is the diagnosis for recovery or habitation. In Great Britain, a careful distinction is made between children who are hyperkinetic and children who are overactive. In a study (Bax, 1972) found that a rigid criteria used for diagnosis of hyperkinetic behaviour revealed a small percentage of children were identified as having this syndrome. The author remarks the children must have a short attention and excess motor activity. In Great Britain, group intelligence tests are used for initial screening rather than diagnosis. Many tests like Bender Gestalt Test, Raven's Standard Progressive Matrices, Draw-a-man Test, Standardised Reading and Vocabulary Tests, etc. are used to make a differential diagnosis of a child's abilities and specific disability.

Learning disabilities are diagnosed by educational consultants and pediatric neurologists in Hungary. The service is free and may be suggested by the school or parent. The psychological tests for diagnosis vary according to the institutions, where the examinations have been carried out. Personality tests are frequently used to assess the child's behaviour and to produce detailed qualitative analysis

(Sandor & Illes and Meixner, 1976). Lester Tarnopol and Muriel Tarnopol (1976) in their paper on Reading and Learning Disabilities in the United States mentioned that the purpose of diagnosis is generally to detect 1) medical problems, 2) problems requiring speech and language therapy, and 3) the nature of the learning problems they added, should be such that a prescription for teaching the child may be devised. In United States, the diagnostic testing is often done by a co-ordinated team consisting of atleast, a physician, a psychologist, a speech, hearing and language therapist, and a teacher of special education. The psychological evaluation includes intelligence testing. Test of eye-hand co-ordination, small and large muscle co-ordination and balance are also used. The tests may also include visual and auditory perception, speaking and writing processes, the ability to receive, understand, remember, sort and organise. An educational evaluation is used to determine the child's level of reading, spelling, writing and arithmetic. Tarnopol points out that the diagnostic team finally brings their reports together and work out a prescription for the medical and educational management of the child.

The review presented above on the diagnosis of learning disabilities reveals that almost all specialists in this field express that the main purpose of a diagnosis is to gather information and to analyse and synthesize the data

pertaining to the learning disabilities of children so that the teacher can help them learn in the direction required. It is suggested that case history or interview technique, clinical observation method, informal tests and formal standardised tests may be used for the purpose of diagnosis. The diagnosis techniques used by several countries as quoted above throws a light as to how the present study should attempt to diagonise such children.

In the present study to diagnose the learning disabled child, tests for psychological evaluation, language evaluation, educational evaluation and schedule to collect data pertaining to developmental history of the child, rating scale to collect information related to visual, auditory perception, the ability to receive, understand, remember, organise, etc. are used. The description of the same are presented in Chapter III. The review under this head clearly shows that such tests, scales and schedules are widely used in almost all countries to diagnose the learning disabled child.

CHARACTERISTICS OF THE LEARNING DISABLED

Children with learning disabilities are a heterogeneous group. In their early attempts to describe the characteristics of children with learning problems, educators used vague terms such as "under achievers" or "learning block". Physicians used such terms as brain impairment, cerebral insult, brain damage, brain injury, dyslexia, etc. The lack of defined

characteristics and terminology which were meaningful and observable by both physicians and educators left us in darkness.

Later Stranss and Lehtinen described the brain injured children in terms of observable behaviour, such as hyper-activity, irritability, impulsiveness and short attention span. Educators began identifying students in their schools who exhibited the same types of behaviour (Larry A. Fass, 1976).

Kirk (1972) divided the correlates of learning disabilities into 1) physical factors, 2) environmental factors, and 3) psychological factors. Some of the physical correlates described are confused spatial orientation, hyperkiness, undue family pressures, bilingualism, lack of school experience etc. Psychological correlates are slow understanding and interpretation of concepts, poor organising and generalising ability, inability to express concepts minimal motor and verbal skills and defective short term memory.

Gearheart (1973) pointed out that a great many characteristics are found a significant in a number of learning disability children. A number of children are found to be hyperactive. Lack of motivation, in-attention, over-attention, perceptual disorders, lack of co-ordination, perseveration, memory disorders are identified as some of the significant characteristics among the learning disabled. The author adds that the combinations of these various characteristics lead to real problems for the child and to a diagnosis of learning disabilities.

An overview of the sources of learning problem by Tarnopol (1969) resulted a list of factors related to learning problems. The major factors found are: excessive absences, educationally deprived environment, lack of motivation, defects in teaching, malnourishment, etc. From the reports collected from various countries, it is understood that lower socio-economic status tends to be related to generally depressed reading levels. Minority status also contributed to some extent the low learning level.

In a study in the Netherlands (Joep J. Dumont, 1976), it was found that behaviour problems--poor instructions, socio-economic underdevelopment, environmental neglect are some of the most important characteristics. Parent non-co-operation also contributed to the poor learning level.

Lerner (1976) while describing the case history technique suggested family history, physical developmental data, social, personal and educational factors may be studied to find whether any of them influence the learning disability. Larry A Fass (1976) enumerated the most frequently identified characteristics of learning disabled children in terms of 1) Academic ability level, 2) Activity level, 3) Attention problems, 4) Motor problems, 5) Visual perceptual problems, 6) Auditory perceptual problems, 7) Language problems, 8) Work habits, 9) Social and emotional problems, and 10) Orientation problems.

Charles High developed Pupil Behaviour Rating Scale (Myklebust and Boshes, 1969), which scale records the teacher's judgement or impression of the child. The teacher has to judge 24 behavioural characteristics of children by rating them on a 5-point scale. The scale measures five areas of learning and behaviour. It is understood that the teacher judgement of these behavioural characteristics proved to be a liable technique for not only identifying children with learning disabilities but also to study the characteristics influencing the learning level of these identified children. The five areas covered in the scale are auditory comprehension and listening, spoken language, orientation, behavior and motor. Under auditory comprehension, 1) the ability to follow directions, 2) comprehension of class discussion, 3) ability to retain auditory information, and 4) comprehension of word meaning are examined. As regards to spoken language, 1) complete and accurate expression, 2) vocabulary ability, 3) ability to recall words, 4) ability to relate experience, and 5) ability to formulate ideas are studied. From the behavioural category, 'orientation', 1) promptness, 2) spatial orientation, 3) judgement of relationships, and 4) learning directions are included. The behaviour of the child is viewed through 1) co-operation, 2) attention, 3) ability to organise, 4) ability to cope with new situations, 5) social acceptance, 6) acceptance of

responsibility, 7) completion of assignments, and 8) tactfulness. While study, motor aspect of the child, 1) the general co-ordination, 2) balance, and 3) ability to manipulate equipment are given importance.

The scale covers almost all aspects of behavioural characteristics of children. Teacher judgement of these behavioural characteristics of children has proved to be reliable technique for identifying children with learning disabilities. The mean score of children identified as normal on the scale was 81, while the mean score of learning disabilities group was 61. Within the behavioural approach to teaching children with learning problems, the concept of observation takes on a very specific meaning since qualified observational data are required (Lovitt, 1967).

As pointed out earlier, children with learning disabilities are a heterogeneous group. The behavioural problems exhibited by some children may not be same by other children who are identified as learning disabled. While a child with a severe and complex disorder may need a complete, intensive diagnosis provided by an entire interdisciplinary team of specialists, a child with milder problems may be examined by a psycho educational specialist. Cluster of factors and characteristics revealed in the diagnosis some times constitute a syndrome that leads to a useful analysis and a practical teaching plan.

For example, one such cluster of factors might include motor awkwardness, poor performance in motor tests and low scores on sub-tests related to spatial orientation and another set of correlates may be related to deficiency in auditory processing. This may include slow language development, poor performance in auditory discrimination, poor auditory memory, poor reading and inability to learn phonics (Lerner, 1976).

The investigator has chosen the Pupil Behaviour Rating Scale of Charles High as most suitable scale as it not only enables to quatify the learning disability but also provides opportunity to study the various characteristics at length. The scale covers almost all areas and the study of the factors, 1) auditory comprehension and listening, 2) spoken language, 3) orientation, 4) behaviour, and 5) motor. As the scale thus meets the requirements of the present study, it is justified to choose the scale to study the characteristics of the learning disabled children which is one of the objectives of the study.

The review thus reveals that children with learning disabilities possess different types of characteristics which should be diagnosed early. Some of the characteristics viewed through the above overview prompt the present investigator to study such characteristics in our culture. Early learning disabled child, as referred earlier, may not obviously manifest all of these characteristics but rather a unique combination of such traits.

CHAPTER III

METHODS AND PROCEDURE

One of the important problems faced by a researcher in Education is that of devising or selecting the appropriate tests for collecting the required data. The job of standardising specific tools for one's own investigation to suit the particular condition is beyond the efforts of a single investigator. Hence the compromise of choosing some standardised and established tools and adapting them to suit one's own purpose appears to be the most acceptable procedure. It is this procedure that has been adapted by the present investigator. The procedure adapted for developing, selecting and modifying the tools, used in this investigation is discussed in this chapter.

For the purpose of the present investigation, a sample comprising of 923 pupils of V Standard with ages ranging from 9 to 11 years was selected. The subjects were selected from twenty different schools selected by random sampling technique from the Chittalapakkam Panchayat Union area, Chingleput District of Tamil Nadu State. The subjects thus belonged to the rural background. Care was taken to choose the sample of schools from different areas of the union so that the sample represents the entire union. In order to choose the normal and above normal intelligent pupils from among 923 pupils, Raven's Coloured Progressive Matrices Test was administered during the months of July, August and September 1981. The sampling distribution is shown in Table 1.

TABLE 1

Sampling Distribution - Administration of Intelligence Test

No.	Name of the Village	Boys	Girls	Total
1.	Chittalapakkam	28	35	63
2.	Oggium Thuraipakkam	25	20	45
3.	Moovarasampet	36	21	57
4.	Peerkankaranai	32	18	50
5.	Lakshmipuram	41	44	85
6.	Anakaputtur	43	39	82
7.	Tirusoolam	42	10	52
8.	Madambakkam	18	12	30
9.	Tiruvancheri	19	8	27
10.	Cowl Bazaar	15	15	30
11.	Tiruneermalai	19	17	36
12.	Ramakrishnapuram	9	8	17
13.	Tambaram Sanatorium	21	19	40
14.	Pulidivakkam	62	45	107
15.	Uthandi	18	5	23
16.	Neelankarai	11	3	14
17.	Sholinganallur	42	31	73
18.	Medavakkam	36	14	50
19.	Perungudi	16	8	24
20.	Kovilambakkam	14	3	17
	TOTAL	546	377	923

As the main purpose of the present study is to identify atleast 50 learning disabled children in order to study their characteristics, an Achievement Test was constructed and standardised by the present investigator which was administered to the above sample during the months of February, March and April 1982. Due to various factors, a few children were absent during this period as such the Test could be administered to 720 pupils only. During this time, many pupils suffered from Chickenpox, and other minor ailments. Hence the rest of 203 children could not be tested inspite of repeated visits of Junior Research Fellows, and the Principal Investigator. Hence, during this phase of field work, the study was confined to only 720 pupils. The sampling distribution is presented in Table 2.

TABLE 2

Sampling Distribution - Administration of Achievement Test

No.	Name of the Village	Boys	Girls	Total
1.	Chittalapakkam	24	24	48
2.	Oggium Thuraipakkam	20	17	37
3.	Moovarasampet	23	16	39
4.	Peerkankaranai	29	18	47
5.	Lakshmipuram	41	38	79
6.	Anakaputtur	37	30	67

(Contd.)

No.	Name of the Village	Boys	Girls	Total
7.	Tirusoolam	31	11	42
8.	Madambakkam	15	7	22
9.	Tiruvancheri	15	8	23
10.	Cowwl Bazaar	11	8	19
11.	Tiruneermalai	6	12	13
12.	Ramakrishnapuram	5	9	14
13.	Tambaram Sanatorium	15	11	26
14.	Pulidivakkam	52	41	93
15.	Uthandi	9	3	12
16.	Neelankarai	11	1	12
17.	Sholinganallur	37	23	60
18.	Medavakkam	22	10	32
19.	Perungudi	14	3	17
20.	Kovilambakkam	13	-	13
	TOTAL	430	290	720

IDENTIFICATION OF THE LEARNING DISABLED - TOOLS USED

In the light of the several definitions discussed in Chapter I, a meaningful and acceptable definition of learning disability was formulated, as stated in the previous chapters, for the purpose of the present study. This definition was

used to identify such children in this study. Thus in order to meet the requirements of this operational definition, the following tools were required for the present investigation.

1) Intelligence Test, 2) Achievement Test, 3) Pupil Behaviour Rating Scale, and 4) Pupil Personal Data Schedule (A Parental Report).

An attempt is made to describe these tools in this Chapter.

1) INTELLIGENCE TEST

Raven's Coloured Progressive Matrices Test was used to study the intelligence of pupils. This is one of the better known culture free tests. It has been widely used in India by many investigators. It has been repeatedly found to be a satisfactory non-verbal intelligence test for a variety of testing purposes. High correlations have been found between this test and many verbal tests (Periaswamy, 1968). The present investigator found out the distribution of the coloured progressive matrices scores among pupils of V Std. in the rural area. He developed age norms for a sample of 923 from 20 elementary schools in the rural area (Ramoji Rao, 1982).

Thus in the light of these advantages the author has chosen this test for his investigation. The test enabled the investigator to identify the "intellectually superior", "definitely above the average in intellectual capacity", "intellectually average", "definitely below average in

intellectual capacity", and "intellectually defective" among the pupils chosen for the study. The criterion for this classification is presented in the later part of the chapter, which one was strictly followed as per the Manual for the Raven's coloured Progressive Matrices (Raven, 1977).

DESCRIPTION OF THE TEST

Previous investigators found that children over six years age understand the problems to be solved in the test, if the test is presented in the form of bold patterns with brightly coloured grounds in a book or board. Thus the book form of the test is used in the present study.

The Coloured Progressive Matrices (1977) are designed for young children between 5 and 11 and old people who are mental patients and senescents for anthropological studies and clinical work. This scale is arranged to assess mental development upto the stage when a person is sufficiently able to reason by analogy to adopt this way of thinking as a consistent method of inference. This scale consists of 36 matrices, from each of which a part has been removed. The subject must choose the missing insert from six given alternatives. The items are grouped into three series, known as sets A, Ab, B, each containing 12 matrices of increasing difficulty but similar in principles. The order of the tests provide the appropriate field of thought and standard training in the method of working. While the sets A and B were the same scale as that of the Standard Progressive Matrices Scale,

set Ab was designed so that discrete figures could be apprehended as part of an organised 'whole' or individual entity, appropriately oriented to the observer and his perceptual field. This scale has been revised and re-arranged to provide a more uniform increase in the order of difficulty. In one or two cases, the alternative itself has been altered. Though equivalent revisions have been made in sets A, B, C, D and E in the 1956 Edition of the Standard Progressive Matrices, the value of these changes is chiefly limited to the Coloured Matrices for use with children and for clinical work.

J.C. Raven reports percentile norms for each half-year interval between 5½ and 11 years of age of children and for each five year interval between 65 and 85 years of age of old people. These norms are based on British samples, including 291 school children in Dumfries (in half-year age group) and 608 children in Dumfries (in half-year age group) and 271 old people (in five year groups). High correlations have been reported between the Coloured Progressive Matrices and the Crichton Vocabulary Scales and Mill-Hill vocabulary scale. This scale is not at all a test of general mental deficiency, but it will differentiate clearly between different degrees of intellectual deficiency or impairment. From this, it is obvious whether a person is, or is not, capable of forming comparisons and reasoning by analogy; and if not, to what extent, relative to other people, he is capable of organising

spatial perceptions into systematically related wholes. To assess a person's general level of acquired knowledge, a complimentary test, the Crichton Vocabulary Scale has been constructed and standardised for this purpose.

The coloured Progressive Matrices, Sets A, Ab, B have been presented in the form of boards and movable pieces, or as illustrations printed in a book, without the intellectual process required for success being essentially altered. In either form, the problems to be solved can be demonstrated without any verbal instructions at all. Hence we have Board Form and Book Form of the Coloured Progressive Matrices, the formed requiring the subject to insert the right place rather than to choose the correct completion.

SCORING KEY

Care was taken in getting the key of 1977 scale of the Coloured Progressive Matrices. Key for this scale has been taken from the manual of J.C. Raven (1977). No independent study of the reliability and validity of this Test has been undertaken in view of the generally satisfactory nature of results from the use of this Test in Indian research.

The data obtained by the present author on 923 rural pupils of V Std. showed a normal distribution.

DISTRIBUTION OF COLOURED PROGRESSIVE MATRICES SCORES AMONG RURAL PUPILS OF V STANDARD

Raven's Coloured Progressive Matrices Test was administered to a sample of 923 rural pupils belonging to Chittalapakkam Panchayat Union of Chingleput District, Tamilnadu State, the frequency distribution of scores obtained by the pupils is presented in Table 3 in this Chapter. The data shows that the distribution is normal.

TABLE 3

Frequency distribution of Intelligence Scores

Class Interval	Frequency
1 - 5	3
6 - 10	30
11 - 15	260
16 - 20	312
21 - 25	217
26 - 30	85
31 - 35	16
TOTAL	923

In order to classify the pupils on the basis of their intelligence, the author attempted to develop age norms (9 years, 10 years, and 11 years). The sample comprises of rural pupils of age group 9 - 11 years. As there are no ready made norms available in the Indian rural set up, and the norms published in the manual developed by Raven might mislead classification of the pupils, the author is justified by this attempt in this study.

TABLE 4

Age Norms of Boys - Age Group (9 years - 11 years)

Percentile Points	9 years	10 years	11 years
95	29	29	29
90	27	27	27
75	23	23	23
50	18	19	20
25	14	15	16
10	12	12	12
5	11	11	11
N = 546	233	154	159

TABLE 5

Age Norms for Girls - Age Group (9 years - 11 years)

Percentile Points	9 years	10 years	11 years
95	25	28	25
90	24	25	24
75	21	22	21
50	18	18	16
25	15	14	13
10	12	11	11
5	11	10	8
N = 377	152	142	83

TABLE 6

Indian Rural Norms (I) compared with Standard CPM Norms (S) (BOYS & GIRLS)

Percentiles	9 Years (N = 381)		10 Years (N=296)		11 Years (N=246)	
	I	S	I	S	I	S
5	11	15	11	17	11	17
10	12	16	12	20	12	21
25	14	19	14	22	14	24
50	18	22	18	24	19	28
75	22	26	23	28	23	31
90	26	28	26	31	26	34
95	29	30	29	32	29	35

TABLE 7

INTERPRETATION OF RPM SCORES

Classification of subject according to the percentile obtained as per RPM Manual

GRADE	INTERPRETATION
Grade I	"INTELLECTUALLY SUPERIOR", i.e. (If his score lies at or above the 95th percentile)
Grade II	"DEFINITELY ABOVE AVERAGE IN INTELLECTUAL CAPACITY" i.e. (If his score lies at or above the 75th percentile)
Grade III	"INTELLECTUALLY AVERAGE" i.e. (If his score lies between the 25th and 75th percentile)
Grade IV	"DEFINITELY BELOW AVERAGE IN INTELLECTUAL CAPACITY", i.e. (If his score lies at or xbelow the 25th percentile)
Grade V	"INTELLECTUALLY DEFECTIVE", i.e. (If his score lies at or below the 5th percentile)

ACHIEVEMENT TEST

In this study it is recommended that the academic evaluation to identify the learning disabled is directed towards achievement in the area of English, regional language, Mathematics, General Science and History & Geography which subjects form the curriculum for the V.Std, pupils prescribed by the Government of Tamil Nadu.

An extensive assessment of the language area--reading, spelling, word meaning, dictated vocabulary, paragraph comprehension, structure, punctuation is emphasized. The study also emphasized to assess the basic skills in Mathematics, Science and History & Geography generally taught at the elementary level.

In order to measure the academic achievement of the pupils under study, an Achievement Test was specially constructed for V Standard pupils in this study as no standardised test was available. This test followed closely the syllabi of the schools prescribed by the Government of Tamil Nadu. The pupils under investigation follow an academic year beginning from June and ending in April in the following year. As the final form of the Achievement Test was supposed to be administered from the month of February, 1982, the test was based upon part of the syllabus, normally covered in the first two terms, namely, June-September and October-December. However, it was found that most of the schools complete the syllabus by January and devote the rest of the months for revision work. Hence in practice, this amounted to almost the whole syllabus prescribed for this standard.

Thus the Achievement Test developed comprises of Tamil, English, Mathematics, General Science and History & Geography. As children in the present study belong to rural background and the language ENGLISH was introduced at the later part of the elementary education in the state of Tamil Nadu, children were

not so good in this language. However, as it is one of the subjects in the curriculum as prescribed by the State Government, this subject was also included in the Achievement Test.

In order to study intensively the areas of difficulties faced by the learning disabled, a battery of the above subject Tests were developed and standardised. The total score on all the subjects-Tests is found for each pupil to identify the learning disabled. Later the disability in the respective subject was discussed when the case study is taken up.

The subject text books were referred and experienced teachers were consulted in the preparation of items. Multiple choice type of items were prepared with four alternative responses in such a way that each item represented a behaviour or skill. Right responses were so arranged that no set pattern of repitition occured. Wrong alternatives were chosen with great care, from among the mistakes often committed by the pupils. As pointed earlier, in English and language, questions related to dictated vocabulary, reading, spelling, word meaning, paragraph comprehension, structure, punctuation were added.

To have wide range of difficulty in the final form of the test in each subject, relatively easy and difficult items were included. The preliminary drafts of the tests in each subject were carefully studied and with the help of experienced teachers a few items were eliminated in each subject, leaving the rest of the items for the pilot study. The tests in each subject subtests used in the pilot study has been presented in Appendix I.

The pilot study was conducted 1) to find out the difficulties, if any that the subjects may have in taking the test, 2) to find the time that the subjects would take to complete the test, 3) to select items for the Achievement Test by item analysis, and 4) to find its reliability.

SAMPLE (PILOT STUDY)

The pilot study was conducted in four villages on a sample of 200 V Std. pupils at the end of December 1981. As pointed earlier, almost all the schools in the Panchayat Union completed the entire syllabus by this time as such the pupils could answer all the items of the tests in the pilot study. The villages chosen for the pilot study is presented in Table 8.

TABLE 8

Villages and Schools chosen for the Pilot Study

No.	Name and place of the school	Boys	Girls	Total
1.	Chittalapakkam Panchayat Union School	28	20	48
2.	Oggium Thuraipakkam Panchayat Union School	20	22	42
3.	Moovarasampet Panchayat Union School	30	27	57
4.	Peerkankaranai Panchayat Union School	28	25	53
	TOTAL	106	94	200

PROCEDURE

The five sub-tests of the Achievement Test was administered on four different dates to pupils of the above schools (Table 8). English sub-test and language sub-test were administered on the same day. The seating arrangement was fairly satisfactory. At the very outset, pupils were instructed to fill in details of name, class, school, age and sex etc. for which the provision was made in the first page of the test. The investigator and Junior Research Fellows explained clearly as to how they have to proceed with the Test. They were encouraged to clear doubts before the Test began. They were also informed that there was no time limit for the Test. After the doubts and difficulties of pupils were cleared, they proceeded with their work smoothly. The subjects finished the each sub-test within one hour, twenty minutes to one hour twenty five minutes. All the pupils took the Test in right earnest and they were enthusiastic in answering the Test. The pupils did not find any difficulty in understanding the items of the Test.

SCORING

Each correct response was given one score. The Achievement score for each pupil was obtained by adding the scores obtained on each sub-Test (Five sub-Tests).

ITEM ANALYSIS

Item Analysis is the study of the characteristics of Test items taken individually, as if they were separate Tests. An item, that is either too easy or too difficult is generally a poor item. In addition, if the better pupils fail to answer an item correctly, while the poorer or less able pupils obtain the correct answer, this item also is a weak or poor item.

The next important point to be noted about a test item is to see how fat it helps to distinguish between the high scoring and low scoring pupils on the Test as a whole. This is done by calculating the Index of Discrimination.

CALCULATION OF THE INDEX OF DISCRIMINATION

All the scored papers were arranged in a pile in the ascending order with the lowest total score at the botton and the highest level score at the top.

HIGH-LOW technique was adapted for calculating the Index of Discrimination for each item in the Test. According to this technique, two groups, one known as the 'HIGH-GROUP', and another the 'LOW-GROUP' are taken leaving the other cases in the pile. In the present investigation, the high-group consists of the top 27% of the cases in the pile and the low-group, the bottom 27% of the cases.

Now the number of pupils in the top-group who passed each item of the test and the number of pupils in the bottom-group who passed each item were found. These numbers were converted into percentages.

Using the modified Flanagan Chart (Guilford, 1954), the bi-serial 'r' was found for each item which gave the validity index or discriminative power of the item. Items with validity indices of .20 and more were considered and others were discarded. The difficulty index of each item was found out by averaging the percentage of correct answers in upper and lower groups together.

Finally, items having discriminating index of .20 and above were considered for the final Achievement Test, to be used in the Main Investigation. The validity indices of the selected items have been presented in Appendix II.

TABLE 9

RELIABILITY OF EACH SUB-TEST

SUB-TEST	RELIABILITY	INTERPRETATION
ENGLISH	.98	Highly Significant
TAMIL	.92	,,
MATHEMATICS	.98	,,
SCIENCE	.94	,,
HISTORY & GEOGRAPHY	.89	,,
WHOLE	.86	,,

The final form of each sub-test has been presented in Appendix III, which was administered in the main investigation.

INTERPRETATION OF SCORES ON TOTAL ACHIEVEMENT

In order to evaluate the academic performance of pupils in the main investigation, the scores obtained by each pupil in each sub-test are added together and the frequency distribution of these scores is prepared for the purpose of finding the percentiles. The frequency distribution of Achievement scores of 720 pupils in the main investigation is shown in Table 10. The pupils are graded according to their academic performances as described in the Table 5.

TABLE 10

Distribution of Achievement Scores

CLASS INTERVAL	FREQUENCY
1 - 20	68
21 - 40	174
41 - 60	165
61 - 80	144
81 - 100	84
101 - 120	56
121 - 140	29
TOTAL	720

TABLE 11

INTERPRETATION OF SCORES OBTAINED ON ACHIEVEMENT TEST - CLASSIFICATION OFPUPILS ACCORDING TO THE PERCENTILE OBTAINED

GRADE	INTERPRETATION
Grade I	"Academically superior" - i.e. (If his score lies at or above the 95th percentile)
Grade II	"Definitely above average in academic achievement" - i.e. (If his score lies at or above 75th percentile)
Grade III	"Average in academic achievement" i.e. (If his score lies between 25th and 75th percentile)
Grade IV	"Definitely below average in academic achievement" - i.e. (If his score lies at or below 25th percentile)
Grade V	"Very poor in academic performance" i.e. (If his score lies at or below 5th percentile)

3) PUPIL BEHAVIOUR RATING SCALE

In the present investigation, the PUPIL BEHAVIOUR RATING SCALE is used for two purposes, 1) to confirm the learning disability of pupils identified by the three mandatory characteristics described in Chapter I, and 2) to study their characteristics.

In the early attempts to describe the characteristics of children with learning problems, educators used vague terms such as 'under achievers' or 'learning block'. Later, physicians described them as brain damaged. Until Strauss and Lehtinen published the book "Psychopathology and Education of the Brain injured", there was the lack of defined characteristics and terminology which were meaningful and observable both by educators and physicians.

Strauss and Lehtinen described the brain-injured children in terms of observable behaviour, such as hyper-activity, irritability, impulsiveness, short attention span, etc.

Review of literature reveals that the characteristics of the learning disabled are found most frequently in the areas of 1) ability, 2) activity, 3) attention, 4) motor, 5) visual-perceptual, 6) auditory perceptual, 7) language, 8) work-habits, 9) social-emotional behaviour, 10) orientation, and 11) academic disabilities (Larry A. Faas, 1976). Gearheart (1973) pointed out that the children who fit the three mandatory characteristics to call them learning disabled also exhibits one or more characteristics, such as hyper-activity, hypo-activity, lack of motivation, in-attention, over attention, perceptual disorders, lack of co-ordination, perseveration and memory disorders.

In the present investigation, the investigator selected the scale, PUPIL BEHAVIOUR RATING SCALE to study the characteristics of the identified learning disabled in this

study for the reason that this scale as described by the author is used to assess areas of behaviour that cannot be measured by standardised group screening test. The investigator is justified in using this scale as it touches almost all the important areas of behaviour of pupils, which it is hoped, would throw a light in finding out a few highly significant parameters of behaviour of the learning disabled. As there is no other scale available in India and it is found difficult to develop a fresh scale for the purpose of the present study for want of time and finally the above scale is found to be most appropriate one since it covered mostly the learning and behaviour aspects of pupil, the author is justified in selecting this tool.

Adding to these views of the author, it is found through review of literature, that teacher judgement of behavioural characteristics of children has proved to be a reliable technique for identifying children with learning disabilities and rating scales have been found to be useful instruments (Bryan and Mc Grady, 1972). The Behaviour Rating Scale used in the present study is presented in Appendix V.

DESCRIPTION OF THE SCALE

The scale consists of 24 learning and behavioural characteristics of children. All these characteristics are categorised under five areas.

AREA I : AUDITORY COMPREHENSION AND LISTENING

In this area, the characteristics, (i) ability to follow oral directions, (ii) comprehension of class discussion, (iii) ability to retain auditory information, and (iv) comprehension of word meaning were studied.

AREA II : SPOKEN LANGUAGE

In this area, (i) complete and accurate expression, (ii) vocabulary ability, (iii) ability to recall words, (iv) ability to relate experience and (v) ability to formulate ideas are the characteristics examined.

AREA III : ORIENTATION

This area covers the characteristics, (i) promptness, (ii) spatial orientation, (iii) judgement of relationships, and (iv) learning directions.

AREA IV : BEHAVIOUR

In this area, the characteristics, (i) co-operation, (ii) attention, (iii) ability to organise, (iv) ability to cope with new situations, (v) social acceptance, (vi) acceptance of responsibility, (vii) completion of assignments, and (viii) tactfulness were studied.

AREA V : MOTOR

In this area, (i) general co-ordination, (ii) balance, (iii) ability to manipulate equipment are the characteristics studied.

TRANSLATED VERSION OF THE SCALE

The scale is literally translated into Tamil by experienced teachers and who are experts in languages Tamil and English. 5 copies of the translated version of the scale were given to five judges to examine 1) the appropriate words used, 2) the style of the language, 3) whether the translation is exact. In the light of the reports sent by the judges, slight modifications are made and finally the Tamil version of the scale and the English version of the scale was administered to 20 teachers in the rural area who know English very well on different dates. English version scale was administered after 15 days to the administration of the Tamil version to the same teacher about the same pupil. The reliability co-efficient between Tamil version scale and English version scale was found to be .92, significant at .01 level. A copy of the Tamil version of the scale was presented in Appendix IV and the English version was presented in Appendix V.

ADMINISTRATION OF THE SCALE

The scale is administered to the teacher in-charge of the pupil in order to record her observations (judgements or impressions of the teacher) of the pupil in the above five areas. An important instruction was given to the teacher to rate the scale very carefully as the score obtained finally by the pupil decides the pupil's characteristics.

SCORING KEY

The scale consists of 24 behavioural and learning characteristics. The teacher is asked to judge the characteristics of the pupil carefully and rate him on a 5-point scale. A score of 1 represented the lowest rating of function, a score of 5 represented the highest, and a score of 3 was considered average. All the 24 behavioural categories were to be rated.

Since 5 was the highest possible rating on any one factor, the highest total possible score is 120.

INTERPRETATION OF SCORES

The mean score of children identified as normal was 81, while the mean score of learning disabilities group was 61 (Janet W. Lerner, pp-81).

In the present study, the scale is used to confirm the learning disability of the pupil identified by the three mandatory characteristics. In other words, all the learning disabled pupils should obtain a score less than 61 on the Pupil Behaviour Rating Scale, which confirms firmly the disability. Secondly, the scale is intended to study the characteristics of such pupils in the five areas described above. In the Pilot Study, the mean score of low achievers on this scale was found to be 59. Hence the cases who obtain a score of 59 or less will be regarded as learning disabled in the Indian culture.

4) PUPIL'S PERSONAL DATA SCHEDULE (A PERSONAL DATA)

As stated earlier, children with learning disabilities are a heterogeneous group. The wide range of both degree and type of learning disorders requires a diversity of approaches and of diagnostic techniques. The reason for conducting a diagnosis is to gather pertinent information concerning a specific child in order to plan an educational programme to improve the child's learning. As a matter of fact, the diagnosis is continuous and must be revised and modified as the pupils themselves change through learning. It involves continuous reappraisal. A Personal Data Schedule was developed in this study to collect the case history of each learning disabled child identified. In the present investigation, the data and impressions gained through the case study are integrated with the information obtained through other sources in order to get the full spectrum of the pupil under investigation (Janet W. Lerner, 1976). Lerner (1976) suggested four ways of collecting data : 1) a case history or interview, 2) clinical observation, 3) informal testing, and 4) formal standardised testing. In the present study, case history technique is used besides collecting information that relate to learning with the help of pupil learning and behavioural rating scale. Case history provides a calculative information, insights and clues about

the pupil's background and development. Lerner suggested a few items to be explored through case history study, namely, child's identifying information, birth history, physical and developmental data, social, personal and educational factors. All these factors were included carefully incorporated in the Pupil's Personal Data Schedule developed by the author specially for the present study.

The Junior Research Fellows were instructed to be very skillful to collect the data using the above schedule. They were asked to convey a spirit of co-operation and acceptance to guard against any excessive emotional involvement of the subject interviewed. The subjects were the parents of the identified learning disabled children. The investigators were also asked to gather information in a smooth and conversational manner to collect authentic information. The principal investigator himself collected data personally in a few cases. The objective of collecting the information mainly is to integrate the information collected by this technique with that of the data obtained through Pupil Behavioural Rating Scale to arrive at certain significant parameters that would establish learning disability. Care is taken not to prepare a lengthy schedule, but at the same, due attention is paid to collect enough information.

PILOT STUDY

Before administering the schedule in the main study, it was administered to twelve parents in different schools in the Panchayat Union to find out 1) whether parents find it easy to answer the items, 2) whether the investigators find any difficulty in collecting the information through the items framed in the schedule, 3) whether to delete any items which do not give any reliable and meaningful information.

Excepting one or two minor items, it was found that the rest of the items were good enough and the investigator finally prepared the schedule as presented in Appendix VI.

CHAPTER IV

RESULTS [illegible]

IDENTIFYING THE LEARNING DISABLED

Before taking up the [illegible] of the present investigation in terms of [illegible] learning disabled pupils, the [illegible] study to identify the learning [illegible] described. Later, we shall illustrate [illegible] our identification scheme through [illegible].

Any pupil who qualifies for [illegible] is the one who is experiencing serious [illegible] despite adequate intellectual endowment [illegible] academically significant sensory [illegible] disabilities. Though the intellectual [illegible] or superior, the pupil might be [illegible] weaknesses, deficiencies or definite [illegible]. We thus assume that such weaknesses [illegible] responsible for impeding the student's school [illegible]. As pointed out by Libby Goodman (197[illegible]) [illegible] certain emotional difficulties, but [illegible] learning problems and not severe emotional [illegible].

Having understood the learning disabled pupil [illegible] described above briefly and in [illegible], the criteria used in this study for the diagnosis and selection of the learning disabled pupils for further intensive case study are as follows:

1) The pupil must not suffer from [illegible] sensory defects and physical impairments.

2) The pupil must demonstrate [illegible] (intellectually average) or better on the [illegible] Progressive Matrices.

3) The pupil must be achieving [illegible] Academic Achievement Test (constructed by the investigator) prescribed for V Std. and he must [illegible] Grade IV or less on the Test [illegible] standardised for the purpose of the present study.

4) Adequate educational opportunity.

SENSORY & PHYSICAL ACUITY

STEP 1 : In this step, 923 rural pupils were examined to find out whether they suffer from [illegible] sensory and physical impairments. The data were obtained from school health records, through the teacher in-charge of the class and by the personal observations of the present investigator.

Since all the schools chosen for this sample admit generally normal children, the investigator did not find any pupil suffering from any sensory or physical disabilities. There are special schools in the State of Tamil Nadu which admit children suffering from sensory disabilities and physical

impairments. Thus it was found that [illegible] sample chosen for the study were found [illegible] sensory acuity and were not suffering [illegible] impairments with an exception of [illegible] sample. Having satisfied with this [illegible], the [illegible] then proceeded to follow Step 2, i.e., [illegible] Intelligence Test.

STEP 2 : ADMINISTRATION OF [illegible]

Raven's Coloured Progressive Matrices Test [illegible] administered to the sample of 923 pupils [illegible] belonging to Chittalapakkam Panchayat Union of [illegible] District, Tamil Nadu State to study their intellectual ability. A detailed sampling distribution is presented in Table 1 (Chapter III).

The frequency distribution of Intelligence Test scores obtained by 923 pupils is presented in Table 3.

On the basis of the scores obtained by the pupils on Coloured Raven's Progressive Matrices Test, the pupils were classified into five grades on their intellectual ability as described in the manual of Raven's Progressive Matrices Test but strictly following the norms developed for the purpose of the present study (Chapter III). An account of the percentage of pupils falling under each grade is presented in Table 12.

TABLE [illegible]

GRADE-WISE CLASSIFICATION OF [illegible]
(N = 923)

GRADE	INTERPRETATION OF GRADES	NO. OF PUPILS	[illegible]
GRADE I	Intellectually superior	40	4.[illegible]
GRADE II	Definitely above average	[illegible]	[illegible]
GRADE III	Average	45[illegible]	49.[illegible]
GRADE IV	Definitely below average	15[illegible]	16.[illegible]
GRADE V	Intellectually defective	[illegible]	6.4
		923	100.00

The above table shows that 27.5% of pupils are [illegible] as definitely above average. 4[illegible] are average in intelligence and 4.3% are intellectually superior. Thus in this sample, it is found that 76.8% belong to [illegible] average in intelligence, which comes to 709 [illegible] the sample of 923.

STEP 3 : ADMINISTRATION OF ACHIEVEMENT TEST

The Achievement Test which consists of five sub-tests (English, Tamil, Arithmetic, Science and History & Geography) was then administered to all the children who ever was present at the time of administration. Though there were 709 pupils in the

sample found to be intellectually average and above, the Achievement Test was administered by the Investigator to all the children present at the time of administration. The Test could be conducted to only 720 pupils out of [illegible] as the other children were absent [illegible] mentioned earlier. The sample distribution of pupils to whom the Achievement Test was administered is presented in Table 2 (Chapter III). The distribution of achievement scores obtained by 720 pupils is presented in [illegible].

On the basis of the scores obtained by the pupils in the Achievement Test, the pupils were classified into five grades on their academic ability as described in Chapter III. An account of the percentage of pupils falling under each grade is presented in Table 13.

TABLE 13

GRADE-WISE CLASSIFICATION OF PUPILS ON ACHIEVEMENT TEST (N = 720)

GRADE	Interpretation of Grade	No. of Pupils	Percentage of pupils falling under the Grade
GRADE I	Superior in Academic Achievement	73	10.2
GRADE II	Definitely above average in academic achievement	5	0.7
GRADE III	Average in Academic Achievement	275	38.1
GRADE IV	Definitely below average in Academic Achievement	297	41.3
GRADE V	Academically defective	70	9.7
		720	100.00

Among these 720 pupils, 367 pupils [illegible] obtained the scores on Achievement Test [illegible] the 25th percentile. In other words, [illegible] 50.9% under achievers. Out of 367, 15[illegible] pupils [illegible] to be average and above average in their intelligence. These children were thus found to be [illegible] average in academic achievement [illegible] above average intelligent. From the records of the school and by direct observation of the present investigator, these children were found to be normal [illegible] auditorially. As they were provided with the required schooling, and parents encouraged them to go to school, the provision for the necessary educational opportunity was fulfilled. Thus these children fulfilled all the [illegible] required to be described as the learning disabled for the purpose of the present investigation. Table 14 shows the village-wise distribution of learning disabled pupils.

TABLE 14

VILLAGE-WISE DISTRIBUTION OF THE LEARNING DISABLED PUPILS IDENTIFIED IN THE PRESENT STUDY

NO.	NAME OF THE VILLAGE	BOYS	GIRLS
1.	Chittalapakkam	6	5
2.	Thuraipakkam	5	7
3.	Moovarasampet	4	7
4.	Peerkankaranai	12	6
5.	Lakshmipuram	4	7

(Contd.)

No.	NAME OF THE VILLAGE	BOYS	GIRLS
6.	Thiruneermalai	-	8
7.	Thiruvanchery	2	1
8.	Madambakkam	4	1
9.	Uthandi	2	1
10.	Sholinganallur	12	12
11.	Pulidivakkam	16	15
	TOTAL	67	66

It may be noted that in the present study 10.5% of the research pouplation under study were found to be learning disabled. This result concurs with the investigations conducted at the international level (Myklebust and Boshes, 1969, Kirk 1974, National Advisory Committee for Handicapped, 1968).

A variety of estimate of the prevalence of children who suffer from learning disabilities has been made, ranging from 1% to 30% of the research population. Myklebust and Boshes (1969) found 15% of the research population were identified as under achievers. A further study by them and more stringent criteria for identification revealed that approximately one-half of those initially identified fell into the category of learning disabled.

In the present study also a student rating scale was further used to estimate the hard core cases of the learning disabled. For this purpose, the 133 pupils identified above as under-achievers were examined further with the Pupil Behaviour Rating Scale, which scale was administered to the teachers in-charge of these 133 pupils. The scale records the teacher's judgement of the behaviour of the child in a measurable fashion. The teachers were asked to judge 24 behavioural characteristics of children by rating them on a 5-point scale. The highest possible score on the scale is 120 and as per the manual (Lerner, 1971) the mean score of normal group of pupils was 81, while the mean score of the learning disabilities group was 61. In the present investigation, a pilot study was conducted on this issue and it was found that the mean score of the learning disabilities group in the Indian culture was 59. The study reveals that all the 133 learning disabled pupils identified initially were confirmed as learning disabled on the Pupil Behaviour Rating Scale. It was found that 58 pupils among 133 scored less than 59 on the scale. Out of these 58 pupils, the investigator had chosen the pupils whose scores were least among them. Finally 50 pupils were taken up to study the correlates of learning disabilities. Data related to these 50 hard-core cases of learning disabled pupils is presented in Table 15.

TABLE 15

DATA RELATED TO 50 HARD-CORE LEARNING DISABLED PUPILS

Name of the Village	Name of the Candidate	INTELLIGENCE			ACHIEVEMENT		PUPIL BEHAVIOUR RATING SCALE	
		Scores	Percentile Point	Remarks	Scores	Percentile Point	Remarks	Scores
CHITTALA-PAKKAM	1) Vinayagam	21	50-75	Above average	56	25th	Definitely below average	59
	2) Krishna Kumar	19	50th	Average	10	Below 25th	,,	59
	3) Ratna Sabapathy	21	50-75	Above average	48	,,	,,	53
THURAI-PAKKAM	4) Vijaya Kumar	15	25-50	Average	13	,,	,,	52
	5) Guruswamy	20	50-75	Above average	13	,,	,,	57
	6) Gajendharan	23	50-75	Above average	22	,,	,,	51
	7) Kalaivani	23	50-75	Above average	14	,,	,,	59
	8) Jyothi Lakshmi	22	50-75	Above average	11	,,	,,	56
	9) R. Anjalai	17	25-50	Average	17	,,	,,	57
MOOVARA-SAMPET	10) Dhanasekhar	18	50th	Average	44	,,	,,	51
PILERKAN-KARANAI	11) S. Babu	19	50th	Average	29	25th	,,	5[illegible]
	12) Yovan	22	50-75	Above average	66	,,	,,	5[illegible]
	13) D. Sakthivelu	23	50-75	Above average	47	,,	,,	5[illegible]
	14) Nagavel	15	25-50	Average	72	,,	,,	51
	15) S.R.M. Lakshmi	20	50-75	Above average	[illegible]	,,	,,	57
	16) Kripa Santha Kumari	16	25-50	Average	41	,,	,,	5[illegible]

Name of the Village	Name of the Candidate	INTELLIGENCE			ACHIEVEMENT		PUPIL BEHAVIOUR RATING SCALE	
		Scores	Percentile Point	Remarks	Scores	Percentile Point	Remarks	Scores
LAKSHMI-PURAM	17) Gajendran	15	25-50	Average	38	25th	Definitely below average	58
TIRUNEER-MALAI	18) S. Kavitha	15	25-50	Average	33	,,	,,	54
	19) Jyothi	22	50-75	Above average	26	,,	,,	51
	20) Ageraiz	22	50-75	Above average	29	,,	,,	55
TIRUVAN-CHERI	21) Thavaselvi	19	50th	Average	30	,,	,,	58
MADAM-BAKKAM	22) Ezumalai	15	25-50	Average	32	,,	,,	54
	23) Taishankar	16	25-50	Average	33	,,	,,	55
	24) Tyagnar	18	50th	Average	52	,,	,,	52
	25) Kasinathan	18	50th	Average	9	,,	,,	54
	26) Vijaya Kumari	18	50th	Average	51	,,	,,	57
UTHANDI	27) Kadir Hussain	15	25-50	Average	30	,,	,,	52
	28) Rehana Begum	17	25-50	Average	27	,,	,,	52
SHOLINGA-NALLUR	29) D. Sudhakar	15	25-50	Average	11	,,	,,	52
	30) Ashok Kumar	18	50th	Average	34	,,	,,	52
	31) R. Sekhar	15	25-50	Average	25	,,	,,	52
	32) Devasikamani	22	50-75	Above average	30	,,	,,	56

Name of the Village	Name of the Candidate	INTELLIGENCE			ACHIEVEMENT		PUPIL BEHAVIOUR RATING SCALE	
		Scores	Percentile Point	Remarks	Scores	Percentile Point	Remarks	Scores
SHOLINGA-NALLUR	33) Mohana	15	25-50	Average	43	25th	Definitely below average	51
	34) Meenakshi	20	50-75	Above average	26	,,	,,	55
	35) K.V. Nagammal	15	25-50	Average	22	,,	,,	54
	36) V. Rajeswari	17	25-50	Average	22	,,	,,	53
PULIDI-VAKKAM	37) Palanivel	18	50th	Average	36	,,	Below average	56
	38) Kannappan	15	25-50	Average	52	,,	,,	51
	39) Dhanasekhar	19	50th	Average	37	,,	,,	52
	40) Sukumar	23	50-75	Above average	53	,,	,,	56
	41) Sharabanthini	16	25-50	Average	61	,,	,,	50
	42) S.R. Balaji	15	25-50	Average	30	,,	,,	51
	43) Viswanathan	20	50-75	Above average	26	,,	,,	[illegible]
	44) Manjula	16	25-50	Average	18	,,	,,	[illegible]
	45) Selvi	17	25-50	Average	34	,,	,,	54
	46) Varalakshmi	16	25-50	Average	[illegible]	,,	,,	[illegible]
	47) [illegible]iselvi	17	25-50	Average	35	,,	,,	[illegible]
	48) Satya Kumari	16	25-50	Average	18	,,	,,	[illegible]
	49) Vijaya Lakshmi	20	50-75	Above average	45	,,	,,	[illegible]
	50) [illegible]	16	25-50	Average	46	,,	,,	[illegible]

*VISUAL ACUITY : NORMAL FOR ALL   [illegible] : NORMAL FOR ALL

Finally it may be noted that the prevalence of hard-core cases of the learning disabled in the present population was found to be 6.94% which percentage is in concurrence with the previ-ous findings. The study, with the more stringent criteria for identification revealed that approximately, one-third of those initially identified fell into the category of learning disabled. In a study by Myklebust and Boshes (1969) it was found that with such more stringent criteria for identification, one-half of those initially identified fell into the category of learning disabled.

In the present study, it is surprised to note that both boys and girls are in the same proportion as regards to their learning disabilities. The ratio is found to be 1:1 as it is not so in the case of previous studies. Generally boys were found to be more disabled than girls. In the present study, out of 133 cases, initially found to be learning disabled, there were 67 boys and 66 girls. Later, even among 50 hard-core cases, 26 boys and 24 girls were found to be learning disabled.

CHARACTERISTICS OF LEARNING DISABLED CHILDREN IDENTIFIED IN THE PRESENT STUDY

No single variable or characteristic can describe learning disabled pupils as pointed out by Koppitz (1971).

It is difficult to establish clear cause-effect correlates and these may not always be directly relevant to therapeutic planning. Nevertheless, it is useful to note all the possible causes of the learning problems. It is essential to understand the contributing factors, emotional, psychological and environmental factors. Cluster of factors and characteristics revealed in the diagnosis some times constitute a syndrome that leads to useful analysis and a practical teaching plan (Lerner, 1976). Review of literature points out that one such cluster of organic factors might include soft signs of motor awkwardness, poor performance in motor tests and low scores on sub-tests related to spatial orientation. Another set of correlates (Lerner, 1976) might point to a deficiency of auditory memory, inability to learn phonics and slow language development. Larry A. Faas (1976) listed the most frequently mentioned characteristics, such as, 1) ability level, 2) activity level, 3) attentional problems, 4) motor problems, 5) visual-perceptual problems, 6) auditory perceptual problems, 7) language problems, 8) work habits, 9) social-emotional behavioural problems, and 10) orientation problems.

In 1969, Klanger and Kolson described a group of children whose educational performance was deficient because of a variety of secondary factors. They listed the following parameters: 1) Poor attendance, 2) Poor attitudes, 3) Poor self-concept,

4) Lack of confidence, 5) Low level of aspiration, 6) Lack of study skills, 7) Lack of Basic skills, 8) Poor physical conditions, 9) Poor teaching, and 10) Poor curriculum. They pointed out that it is more appropriate to refer to these children as having educational deficiencies than to call them learning disabled. In 1969, Chalfant and Scheffelin described learning disabled children as one who have a problem involving deviations in the ability to process information. They possess inefficiencies in the reception analysis, synthesis and symbolic use of information.

In the present study, an attempt is made to study a few characteristics of learning disabled children identified. The data were collected using 1) Pupil's Personal Data Schedule, specially prepared for the study by the investigator, 2) Pupil Behaviour Rating Scale developed by Charles High.

PUPIL'S PERSONAL DATA SCHEDULE

ANALYSIS AND INTERPRETATION OF DATA COLLECTED USING PUPIL'S PERSONAL DATA SCHEDULE

Pupil's Personal Data Schedule (PPDS) was prepared carefully by the present investigator to study whether any of the personal factors of the pupils do have any relation to his learning disability. The schedule covered the area 1) Identifying Information, 2) Birth History, 3) Developmental History, 4) Health History, 5) Educational Factors, and 6) Home Factors.

The data were collected from 133 pupils identified as learning disabled out of which a further intensive study was made on 50 cases using Pupil Behaviour Rating Scale to study the major characteristics that influence learning disability. The Personal Data Schedule was administered to the parents of 133 pupils and collected the data on important issues of the pupils. The information gathered are tabulated in different tables as presented below and the results are discussed and inferences are described on each issue.

THE IDENTIFYING INFORMATION

The data collected under the identifying information of the schedule revealed that the average age of children studying V Standard, who were identified as learning disabled is found to be 11.1 years though the average age of all children in the sample is 9.8 years (Table 16). This shows that pupils of this category would have been repeating the same class twice or thrice. This fact is supported by the information that 95 pupils out of these 133 repeated the same class for more than two or three years (Table 17).

TABLE 16

AVERAGE AGE OF LEARNING DISABLED

AGE GROUP	NO. OF CHILDREN	AVERAGE AGE
9 Years	0	
10 Years	8	
11 Years	58	11.1 Years
12 Years	53	
13 Years	14	
	133	

TABLE 17

CLASSES SKIPPED AND REPEATED BY THE LEARNING DISABLED

SKIPPED THE CLASSES	REPEATED THE CLASSES
NIL	95/133

This shows that nearly one-sixth of the entire sample were found to be 10 to 13 years old, who were learning disabled children. The findings thus reveal the fact that these children were not identified sufficiently earlier as learning disabled which would have caused them to repeat the same class for two or three years (Table 17). It is justified to choose children of 9-12 years age group for the present study as Louise Bates Annes (1968) rightly pointed out that during the early ages, five to ten years old range child's own basic potentials express themselves more clearly and less are overlaid by the secondary effects of experience of success or failure than in older children.

SOCIO-ECONOMIC BACKGROUND

The data collected under the "Identifying Information" of the schedule shows that socio-economic background of pupils was very poor. Majority of fathers had education from V Standard to VIII Standard, and they were found to be skilled and unskilled workers. Their income ranged from Rs.150 - Rs.500 per month. A few mothers were working as coolies to supplement their family income. Ramoji Rao (1976) found that the socio-economic status of pupils was the most important single predictor of academic achievement. He also observed that the correlation remained high even when factors like intelligence and study habits were controlled. Mollenkoff (1956), Coleman (1961), Rita Krishnan (1979), Gupta (1968),

Pavithiram and Feroze (1968) found significant positive relationship between father's income and academic performance. Aaron, Marihal (1960) found that it was the basic difference in Socio-Economic Status that influenced the motives and attitudes and academic achievement of pupils but not the location of one's home--rural or urban. They concluded that rural-urban dichotomy was secondary to the ecomomic and social factors. Minner (1968), Dev Karuna (1962), Singh (1962), Krishnan (1977) observed that socio-economic background has positive relationship with the academic performance of the children.

Montague (1964) found that high socio-economic status children were clearly superior to low socio-economic status children in arithmetic concept test. Siller (1967) reported that high socio-economic status children did better than low socio-economic status children on all tests of conceptual ability. The disadvantaged children are deficient in language development in comparison to those belonging to the privileged group. They have a restricted vocabulary, narrower and simpler syntax and higher threshold for verbal mediation.

Thus it may be concluded that low socio-economic status is one of the basic factors that would have influenced the learning disabilities of the pupils in the present study.

BIRTH ORDER

Among the host of factors that determine the creative achievements of an individual, his birth order and family size appeal to be the important factors. In a study by Vasantha (1978), it was found that the student of First and Second birth orders were significantly superior to the students of other birth orders on the tests of creative thinking. Eisenman and Cherry (1970), Repucca (1971), Srivastava (1978), Jarial (1980) and Conean Helen (1980) found that in comparison to last borns, first borns were significantly more creative. In the present study, third birth order children among the learning disabled occupy I Rank and the first order children occupy third rank. Thus it may be concluded that later born children might experience academic problems when compared with first borns. Contradictory to this finding, Ramana Reddy (1978) found from his longitudinal study of 750, subjects selected from rural and semi-urban areas that the order of birth and the size of family were unrelated to academic achievement. Hence the result of the present study should be accepted with utmost caution. Even in the present study, though there are 32 children of third birth order fall under I Rank, the number of children falling under II Rank and I Rank are almost nearer to this number, which difference may not be significant. Thus it may be concluded in the light of previous findings and the present finding that the birth order is not significantly related to the learning disabilities.

TABLE 18

BIRTH ORDER OF THE LEARNING DISABLED CHILDREN

BIRTH ORDER	NO. OF CHILDREN	RANK
Third	32	I
Second	28	II
First	24	III
Fourth	22	IV
Fifth	16	V
Others	11	VI to IX

BIRTH HISTORY

As regards to their birth history, there are no remarkable points that influenced their low academic performance. During pregnancy, neither mother nor the children suffered from any serious illness or infection. The average B.P. of mothers at the time of delivery was neither high nor low. Only one case was found to be diabetic and the rest were normal. No strong medication was given to the mother, during pregnancy. 130 children out of 133 cases were born normal and none of them were born premature. Thus the birth history of all these 133 pupils show that the birth was normal and none of them had any problems that would have injured their brains or any other physiological condition. 50% of parents married in relation and the other 50% married not in relation.

(c) BIRTH CONDITIONS	YES	NO
i) Normal delivery	131	2
ii) Whether matured	133	-

As regard to other birth conditions, no significant information was there to be considered other than the above information presented in the table.

DEVELOPMENTAL HISTORY

As regards to developmental history of the learning disabled pupils identified in this study, it is interesting to note that none of the parameters examined has any influence on their poor academic performance. Almost all pupils had normal growth and sound physical development. Inspite of possessing such normal developmental history, these children show low academic performance, means, there should be some other versile factors which caused them to be learning disabled. The data related to developmental history is presented in Table 20. The result is in concurence with the previous findings. A child's progress in learning disabled programmes cannot be predicted purely on the basis of a child's developmental history or medical diagnosis (Borther 1969, Dubhaff 1966, Ferichal 1966, Kolling, 1969). The findings of present study and the review of literature reveal that mere developmental history cannot predict the learning disability of a child.

TABLE 20

DEVELOPMENTAL HISTORY

Physical Growth		Teething Structure		Age of Sitting		Age of first words		Age of walking		Speech		Handedness	
N	U	N	U	N	U	N	U	N	U	N	U	L	R
133	-	130	3	133	-	132	1	133	-	132	1	2	131

*N = Normal; U = Unusual; L = Left; R = Right

HEALTH HISTORY

Case studies as reported by Luoise Bates Annes shows that learning disabled children used to have often health problems such as vomiting, stomach-ache, adverse health history, thumb-sucking, night-mares, long history of illness, etc. In another study, the authors observed significant relationship among allergic reactions and hyperactivity and learning disability (Wunderlich, 1973).

Metabolic or biochemical disorders have been statedto be some of the hereditory disorders affecting learning functions.

As pointed earlier, it was also observed that a child's academic progress cannot be predicted purely on the basis of medical diagnosis (Bortner, M and Birch, H.G, 1969, Dubnoff, B. 1966). They also reported that it is impractical and meaningless to group children in special classes on the basis of medical diagnosis.

In the present study, almost all learning disabled children maintained normal health and they had good health history. However, a few parents [illegible] their children often used to suffer from cough, cold, stomach-ache, fever, etc. which complaints are obvious for [illegible]. Thus as reported in the earlier findings ([illegible], [illegible], [illegible] and [illegible]rocovich, 1969) and in the present investigation, health is not a significant predictor of low achievement of pupils though it might be the hindrance to the [illegible] abilities.

TABLE 21

HEALTH HISTORY

Habits of Walking		Arm Swing		Habits of eating		Habits of sleeping		Toilet Habits	
N	U	Equal on both sides	Swings one side	N	U	N	U	N	U
133	133	133	133	133	133	131	[illegible]	129	4

EDUCATIONAL FACTORS

Many investigations were conducted regarding the influence of educational factors on academic achievement by several investigations in India. Rao (1965) found that intelligence, study habits and attitude of students towards school jointly contribute 66% of the predictability of scholastic achievement.

Gupta (1967) observed that tuition given at home contributed to a reasonable extent the scholastic achievement of pupils. Fraser (1967) reported the correlation to be .[illegible] between parental encouragement and the performance of the subjects. Ranoji Rao (1976), Jenner, [illegible] (1974) found positive correlations between study habits and scholastic achievement. These studies and the studies reported in the earlier chapter throw a light to understand the [illegible] emotional parameters that contribute the scholastic achievement.

In the present study, the majority of the children (74/133, 46/133) were found to have joined the school at the age of five or six. The average age of children at the time of their joining the school is 5.84 years, which shows that these children did not join the school late. Most probably, these children would have been forced to join the schools at appropriate age due to the compulsory elementary education policy of the Government.

In this study, it is found that though 96 pupils, out of 133 (72.7%) showed positive attitude to go to school, about 91.6% of children showed negative attitude towards studies. The reasons for this attitude might be several. Explorations of this area by teachers should be encouraged so that the root cause for this negative attitude may be known.

TABLE 22

ATTITUDE TOWARDS SCHOOL (N = 133)

Positive No. of Pupils	Percentage	Negative No. of Pupils	Percentage
96	72.7	37	27.8

TABLE 23

ATTITUDE TOWARDS STUDIES (N = 133)

Positive	Percentage	Negative	Percentage
11	8.4	122	91.6

The result that the pupils showed positive attitude to go to school is supported by the finding that the frequent absenteeism of these children was only 36%. Thus basically, there needs certain motivation and necessary change in the methods of teaching to promote interest among such children so that they may show positive attitude towards studies.

But one thing is noticed during this investigation. From the Personal Data of the pupils collected, it is observed that almost all children identified as learning disabled did not keep any time schedule regularly for their studies. They did not receive any special help in the form of tuitions or any guidance by teachers after or before school hours. The parents too, with their poor educational background did not bother their children to study or provide any special coaching.

TABLE 24

STUDY HABITS OF LEARNING DISABLED (N = 133)

Time schedule for studies				Special help in studies			
Yes	%	No	%	Yes	%	No	%
5	3.7	128	96.3	6	4.6	127	95.4

Thus it may be noted that the children of this category should be encouraged to cultivate good study habits or should be given special instructions in the subjects in which they are poor so that they might develop positive attitude even towards studies.

HOME FACTORS

Some socio-psychiatrically oriented researchers tend to overstress the effect of the parental discord and domestic conditions including broken homes, drunkenness, physical or mental cruelty and crime on children's reading and writing problems.

The study proved that the home background of the learning disabled children was not so bad. Inspite of having satisfactory home situation, they could not show good academic progress means. There might exist some other factors which directly effect their academic performance, the study of which factors would be attempted at a later stage during the discussion of the results obtained by Pupil's Rating Scale. Table 25 shows the home factors of 133 learning disabled.

TABLE 25

HOME FACTORS OF LEARNING DISABLED CHILDREN (N = 133)

FACTOR	YES	%	NO	%
Foster Home	38	28.5	95	71.5
Broken Home	3	2.2	130	97.8
Unstable Home	2	1.5	131	98.5
Over Expectations	47	35.3	86	64.7
Undue Petting	13	9.7	120	90.3
Authoritarian atmosphere	11	8.2	122	91.8

SUMMARY OF FINDINGS

The results obtained by the use of pupil's Personal Data Schedule reveal the following observations:

1) The pupils identified as Learning Disabled were not identified sufficiently earlier, as such most of them were repeating the same class.

2) The socio-economic background of the parents of the learning disabled was found to be low.

3) The later born children were found to have experienced academic problems when compared with first born children.

4) As regards to their birth history, there were no any remarkable observations which influenced their low academic performance. Birth history of the learning disabled was found to be normal and satisfactory.

5) Developmental history of the learning disabled pupils was also found to be normal and satisfactory.

6) Health history of these children also was satisfactory and normal.

7) There was no late joining of the school by these children, since all these children were found to have joined the school at the age of five or six.

8) The learning disabled pupils showed positive attitude to go to school. They, thowever, showed negative attitude towards studies.

9) The learning disabled pupils did not keep up any time schedule for their studies at home, which shows that they had poor study habits.

10) The learning disabled children in the present study did not receive any special help or guidance from any one in the matters related to their studies either at home or at school.

11) There was no undue petting by their parents and there was no authoritarian atmosphere in the houses of these children. The home background of the pupils was found to be satisfactory.

The summary of results presented above lead to a meaningful conclusion that a tri-chotomy of variables influence the learning disability basically, which are Pupil-Parent-School related. On the pupil side, it was observed that pupils had poor study habits and showed negative attitude towards studies. As related to parents, it was noticed that the parents belonged to low-socio-economic group as much they could not help much their children to meet their educational needs. The school related variables show that the schools had no facilities for the identification of

learning disabilities earlier and the school authorities could not provide any specialised instruction for the learning disabled children.

As these Pupil-Parent-School related variables appear to be very fundamental in their nature like the basic needs of any human being, the investigator termed them as basic characteristics that influence the learning disability of any child. The following table shows the tri-chotomy of variables which are termed basic characteristics.

TABLE 26

BASIC CHARACTERISTICS

Tri-chotomy of variables influencing the learning disability

NO.	PUPIL RELATED	PARENT RELATED	SCHOOL RELATED
1.	Poor study habits	Low socio-economic status	Lack of facilities to identify learning disabled pupil earlier
2.	Negative attitude towards studies	-	Lack of facilities for specialised instruction for learning disabled

PUPIL BEHAVIOUR RATING SCALE

ANALYSIS AND INTERPRETATION OF DATA COLLECTED ON PUPIL BEHAVIOUR RATING SCALE

An intensive study was made to study further the characteristics of the learning disabled in terms of learning and behaviour in addition to the basic characteristics observed in the study. Out of 133 cases identified as learning disabled in the present study, a study of 50 case studies was undertaken whose scores on the Pupil Behaviour Rating Scale lie between 32 to 59. These children are described as high-risk learning disabled as their scores fall below the score of 61, which score on the scale indicates the learning disability of a pupil.

The Pupil Behaviour Rating Scale was described in detail in Chapter III, which is presented both in English and Tamil versions in Appendix I and Appendix II. The scale, according to the authors was used to assess the areas of learning and behaviour of the learning disabled pupils. Bryan and Mc Grady (1968) pointed out that the teacher judgement of behavioural and learning characteristics has proved to be a reliable technique for identifying children with learning disabilities. Thus the present investigator is justified in using the scale to identify such disabled children but to study their learning and behaviour characteristics. Within the behavioural approach

to teach children with learning problems the concept of observation takes on a very specific meaning. Thus direct and structured observational technique was aimed here to study their characteristics.

The study has high lighted numerous and diversed aspects about the participatory behaviour and learning of the learning disabled children. It would be highly advantageous to discuss and understand such aspects.

As described earlier, the behaviour and learning AREAS rated by the teachers in the PUPIL BEHAVIOUR RATING SCALE were 1) Auditory comprehension and listening, 2) Spoken language, 3) Orientation, 4) Behaviour, and 5) Motor.

In the first area, four aspects of comprehension of language activities are to be evaluated. The four aspects are (i) ability to follow directions, (ii) comprehension of class discussion, (iii) ability to retain orally given information, and (iv) comprehension of word meaning. Each aspect is rated on a five-point scale and each point here is known as the dimension of the aspect.

In the second area, the child's oral speaking abilities are evaluated through five aspects. The aspects are (i) ability to speak in complete sentences using accurate sentence structure, (ii) vocabulary ability, (iii) ability to recall words, (iv) ability to formulate ideas from

isolated facts, and (v) ability to tell stories and relate experiences. Each aspect is rated on a five-point scale, which point here is described as the dimension of the aspect.

The child's awareness of himself in relation to his environment is considered in the four aspects of learning of the third area, which aspects are (i) promptness, (ii) spatial orientation, (iii) judgement of relationships, and (iv) learning directions. Each aspect is rated on a five-point scale, and each point is here noted as the dimension of the aspect.

In the fourth area, the eight aspects of behaviour relate to the child's manner of participation in the classroom. The aspects of this area are, (i) co-operation, (ii) attention, (iii) ability to organise, (iv) ability to cope with the new situations, (v) social acceptance, (vi) acceptance of responsibility, (vii) competition of assignments, and (viii) tactfulness. Each point is rated and is known as the dimension of the aspect.

The final area pertains to the child's balance, general co-ordination and use of hands in class room activities. Three types of motor ability are to be rated: General co-ordination, Balance and Mannual dexterity. Each aspect is rated on a five-point scale and each point is noted as the dimension of the aspect.

CHARACTERISTICS OF THE LEARNING DISABLED

In the present study, the dimension under which 50% or more than 50% of learning disabled fall is considered to be the significant or notable characteristic of the disabled. The results and interpretation of each area of the scale are presented in this Chapter.

AREA I : AUDITORY COMPREHENSION AND LISTENING

As stated above, the area Auditory Comprehension and Listening enables us to evaluate the pupil as to his ability to understand, follow and comprehend spoken language in the class room. The four aspects of the area were evaluated by the teachers on a five-point scale and the percentages of pupils falling under each dimension of the aspect of the area is presented in Table 27. Table 27 (a) and Table 27 (b) show the percentages of boys and girls falling respectively under each dimension of the aspects of the above area.

TABLE 27

AREA I : AUDITORY COMPREHENSION AND LISTENING

Percentages of pupils falling under each dimension of the aspects of the AREA I (Boys & Girls) : No.50

ASPECT OF THE AREA	DIMENSION OF THE ASPECT				
	1	2	3	4	5
(i)	29.2	57.5	10.4	3.0	-
(ii)	27.6	69.2	3.2	-	-
(iii)	33.7	52.1	14.2	-	-
(iv)	26.0	51.0	23.0	-	-

TABLE 27 (a)

AREA I : AUDITORY COMPREHENSION AND LISTENING

Percentages of Boys falling under each dimension of the aspect of the AREA I (BOYS) : No.26

ASPECT OF THE AREA	DIMENSION OF THE ASPECT				
	1	2	3	4	5
(i)	23.8	62.4	12.4	1.4	-
(ii)	14.9	76.7	8.4	-	-
(iii)	28.5	60.2	11.3	-	-
(iv)	21.6	51.4	27.0	-	-

TABLE 27 (b)

AREA I : AUDITORY COMPREHENSION AND LISTENING

Percentages of Girls falling under each dimension of the aspects of the AREA I (GIRLS) : No.24

ASPECT OF THE AREA	DIMENSION OF THE ASPECT				
	1	2	3	4	5
(i)	32.8	54.6	12.6	-	-
(ii)	22.4	62.6	15.0	-	-
(iii)	31.2	54.1	14.7	-	-
(iv)	19.6	53.4	27.0	-	-

ASPECT (i) : ABILITY TO FOLLOW DIRECTIONS

A look at the Table 27 shows that 57.5% of the sample were found to be following simple oral directions, provided individual help is given. If such help is not provided, most probably they may even get confusion in following such directions. The results show that there are 29.2% of such children in this sample. This particular result reveals that once a child is identified as learning disabled, he or she needs indivudal help till they are able to remember and follow directions skilfully by themselves. When the result is further examined sex-wise, it is found that 62.4% of boys and 54.6% of girls belong to this dimension, which shows that there is no any difference on this aspect among boys and girls. Thus we may conclude that learning disabled pupils cannot follow the class room direction unless or otherwise they are given individual help, failing they always get confused or may not be able to follow the directions.

CHARACTERISTIC NO. 1 : Needs individual help to follow and remember the class room directions.

ASPECT (ii) : COMPREHENSION OF CLASS DISCUSSION

Table 27 shows the percentages of pupils falling under each dimension of the above aspect and Table 27 (a) and Table 27 (b) show the percentages sex-wise. From the Tables, it is understood that 69.2% of the pupils, 76.7% of boys and 62.6% of girls fall under the dimension of the aspect

that these children listen to the class but rarely comprehends well the discussions of the class room. The dimension also points out the minds of these children often wanders from discussions. There are even 27.6% of pupils who are always inattentive and sometimes unable to follow and understand the classroom discussions. The result that the minds of the children often wanders from discussions shows that these children also are almost inattentive to the discussions of the class room. Though they appear to be listening to the class room, their minds wander elsewhere reveals that they are physically present but mentally absent. The result is same in the case of both the boys and girls. Hence it may be concluded that the in-attention to class room is a significant characteristic of a learning disabled child.

CHARACTERISTIC NO.2 : In-attentive to the class room discussion.

ASPECT (iii) : ABILITY TO RETAIN ORALLY GIVEN INFORMATION

As regards to this aspect, Table 27 reveals that 52.1% of disabled pupils under study could retain simple ideas and procedure unless they are repeated often. About 33.7% of them had total lack of recall and hence possessed very poor memory. The two groups could also be described as having poor memory power. From this we understand that these children need constant drilling of the contents taught in the class room.

The result is same when viewed through both the boys and girls (60.2% and 54.1%). Thus poor memory could be considered as the most significant characteristic of these children.

CHARACTERISTIC NO.3 : The learning disabled children possess poor memory. They could retain things if repeated often.

ASPECT (iv) : COMPREHENSION OF WORD MEANING

51% of the disabled pupils fall under the second dimension of the aspect which shows that these children fail to grasp even simple word meanings. They are found even to be misunderstanding words. 51.4% of boys and 53.4% of girls also show the same characteristic. The poor grasping power of understanding the simple words might have thus made them to be under-achievers. One cannot be academically good unless he or she understands all grade level vocabulary.

CHARACTERISTIC NO.4 : The learning disabled pupil fails to grasp simple word meanings and misunderstands the words.

AREA II : SPOKEN LANGUAGE

The percentages of learning disabled children falling under each dimension of the aspect of the area are presented in Table 28. Table 28 (a) and Table 28 (b) show the percentages of the disabled falling under each dimension sex-wise.

TABLE 28

AREA II : SPOKEN LANGUAGE

Percentages of pupils falling under each dimension of the aspects of the AREA II (Boys & Girls) : No.50

ASPECT OF THE AREA	DIMENSION OF THE ASPECT				
	1	2	3	4	5
(i)	21.6	55.3	23.7	-	-
(ii)	12.2	54.7	33.1	-	-
(iii)	16.0	52.4	31.6	-	-
(iv)	10.6	49.2	40.2	-	-
(v)	10.6	55.3	34.1	-	-

TABLE 28 (a)

AREA II : SPOKEN LANGUAGE

Percentages of boys falling under each dimension of the aspects of the AREA II (Boys) : No.26

ASPECT OF THE AREA	DIMENSION OF THE ASPECT				
	1	2	3	4	5
(i)	24.2	55.6	20.2	-	-
(ii)	12.1	52.4	35.5	-	-
(iii)	16.2	48.9	34.9	-	-
(iv)	6.2	49.5	44.3	-	-
(v)	8.9	56.2	34.9	-	-

TABLE 28 (b)

AREA II : SPOKEN LANGUAGE

Percentages of Girls falling under each dimension of the aspects of the AREA II (Girls) : No.24

ASPECT OF THE AREA	DIMENSION OF THE ASPECT				
	1	2	3	4	5
(i)	19.9	58.2	21.9	-	-
(ii)	13.6	55.4	31.0	-	-
(iii)	14.8	52.6	32.6	-	-
(iv)	15.4	52.8	21.8	-	-
(v)	10.2	55.8	34.0	-	-

There are five aspects in this area. The child's oral speaking abilities are evaluated through those aspects. As per the authors of the scale, use of language in the class room and ability to use vocabulary and language in story form are basic to this ability.

ASPECT (i) : ABILITY TO SPEAK IN COMPLETE SENTENCES USING ACCURAGE SENTENCE STRUCTURE

Table 28, Table 28 (a) and Table 28 (b) show the percentages of pupils falling under each dimension of the aspect of the Area II. 55.3% of the sample fall under

second dimension, which reveals that these children frequently uses incomeplete sentences. They even commit numerous grammatical mistakes. The result is same when boys and girls are separately considered (Boys : 55.6% and Girls : 58.2%). 24.2% of these pupils were found to be always using incomplete sentences with grammatical errors. The findings show that inability to speak in complete sentences must be another parameter for their disability. One cannot learn anything properly unless he or she could always speak and write in correct sentences without any grammatical mistakes.

CHARACTERISTIC NO. 5 : Inability to speak in complete sentences with correct sentence structure.

ASPECT (ii) : VOCABULARY ABILITY

54.7% of pupils were found to have limited vocabulary including simple nouns. However, 33.1% of these disabled pupils possessed adequate vocabulary for age and grade. When viewed the results in the sex-wise direction, 52.4% of boys and 55.4% of girls were found to have limited vocabulary. It is very important to note the pupils should be trained to possess above average vocabulary when they could use numerous precise descriptive words. Then only they can overcome with the learning problems. Table 28, Table 28 (a) and Table 28 (b) show the percentages of the above pupils falling under the second dimension of the aspect.

CHARACTERISTIC NO. 6 : Possess limited vocabulary.

ASPECT (iii) : ABILITY TO RECALL WORDS

Table 28, Table 28 (a) and Table 28 (b) show that 52.4% of learning disabled pupils, 48.9% boys of the disabled and 52.6% of girls fall under the dimension which describes that these children often gropes for words to express himself. In other words, they search for correct words and hence find it difficult to recall the appropriate words.

CHARACTERISTIC NO. 7 : Gropes for correct words to express himself. In other words, they have inability to recall words to express.

ASPECT (iv) : ABILITY TO FORMULATE IDEAS FROM ISOLATED FACTS

As regards to this aspect, the pupils were found to have difficult in relating isolated facts. Their ideas were incomplete and scattered. However, percentages presented in Table 28 and Table 28 (a) clearly show that good percentages of pupils were also found who could relate facts into meaningful ideas which were adequate for their age and grade. But in the case of girls only 21.8% of them only were found to fall under third dimension. They were found to experience more difficulty in relating isolated facts than the boys. However, it may be accepted in general that these children experience difficulty in bringing forth their ideas in order to relate the facts appropriately.

CHARACTERISTIC NO. 8 : Inability to relate facts appropriately.

ASPECT (v) : ABILITY TO TELL STORIES AND RELATE EXPERIENCES

A pupil capable of telling stories well could relate ideas in a logical and meaningful manner. Such ability helps the pupil to relate the experiences logically and meaningfully. But in the present sample, 55.3% of the identified learning disabled, 56.2% boys of them and 55.8% girls had difficulty in relating ideas in logical sequence. They could not narrate a comprehensive story because of their inability to relate experiences or ideas in a meaningful manner. This is a hindrance to their academic life as one has to be logical and meaningful in presenting matters. A close look at the previous characteristic and this one reveals that these children are incapable of relating facts and ideas appropriately.

CHARACTERISTIC NO. 9 : Inability to relate ideas in a meaningful manner.

AREA III : ORIENTATION

This area explores the child's awareness of himself in relation to his environment. This area, as stated comprises of four aspects. The aspects touch the time concept. knowledge of direction and the concepts of relationships. Very interesting results were obtained. Table 29, Table 29 (a) and Table 29 (b) show the percentages of pupils falling under each dimension of the aspects of the area.

TABLE 29

AREA III : ORIENTATION

Percentages of pupils falling under each dimension of the aspects of the AREA III (Boys & Girls) : No.50

ASPECT OF THE AREA	DIMENSION OF THE ASPECT				
	1	2	3	4	5
(i)	11.1	30.8	58.1	-	-
(ii)	6.1	25.2	68.7	-	-
(iii)	5.0	44.6	50.4	-	-
(iv)	8.4	40.3	51.3	-	-

TABLE 29 (a)

AREA III : ORIENTATION

Percentages of boys falling under each dimension of the aspects of the AREA III (Boys) : No.26

ASPECT OF THE AREA	DIMENSION OF THE ASPECT				
	1	2	3	4	5
(i)	5.4	30.2	64.4	-	-
(ii)	4.8	27.4	67.8	-	-
(iii)	4.6	35.2	60.2	-	-
(iv)	7.1	33.8	59.1	-	-

TABLE 29 (b)

AREA III : ORIENTATION

Percentages of girls falling under each dimension of the aspects of the AREA III (Girls) : No.24

ASPECT OF THE AREA	DIMENSION OF THE ASPECT				
	1	2	3	4	5
(i)	10.6	34.8	54.6	-	-
(ii)	3.2	22.8	74.0	-	-
(iii)	8.1	38.4	53.5	-	-
(iv)	11.6	48.7	39.7	-	-

ASPECT (i) : PROMPTNESS

Table 29 shows that 58.1% of pupils fall under the third dimension of the aspect, which shows that the learning disabled pupils are average in promptness and understand the meaning of time at their age level and grade level. This prompts us to understand that they attempt to the best of their ability to keep up the schedules and try to avoid doing things late. This is really an interesting characteristic which guides the educationists to further motivate or encourage them to be skilful at handing schedules. The percentages of boys and girls falling under this dimension are parallel.

64.4% of boys and 54.6% of girls belong to this category (Table 29 (a) and Table 29 (b). Thus they are not late to their schedules and do not entirely lack grasp of meaning of time.

CHARACTERISTIC NO. 10 : Average understanding of the meaning of time (capable of understanding the meaning of time).

ASPECT (ii) : SPATIAL ORIENTATION

As regards to the aspect 63.7% of these pupils could maneuver in familiar locations. To some extent, they were able to navigate around class-room or school playground or neighbourhood to an extent which are familiar locations to them. The results when viewed sex-wise seem to be parallel as 67.8% of boys and 74% of girls fall under this dimension.

CHARACTERISTIC NO. 11 : Ability to maneuver in familiar locations only.

ASPECT (iii) : JUDGEMENT OF RELATIONSHIPS

The results obtained in this study reveal that the learning disabled children possess average ability in judging the relationship. The ability is just at the level of their age and the grade. 50.4% of learning disabled pupils, 60.2% of boys and 53.5% of girls fall under this dimension (Tables 29, 29 (a) and 29 (b). These children could possess average ability to differentiate big and small, far and close and light and little.

CHARACTERISTIC NO. 12 : Average ability in the judgement of relationships.

ASPECT (iv) : LEARNING DIRECTION

The learning disabled children are generally not confused with the directions such as right and left, north and south. But they have average sense of such directions. It is evident by the result that 51.3% of these children were found falling under this category. In other words, they do not have good sense of direction. They may or may not confuse with the directions, however, they are average in ability to distinguish such directions.

CHARACTERISTIC NO. 13 : Exhibits average ability in distinguishing the directions.

AREA IV : BEHAVIOUR

Gearheart (1973) pointed out that the learning disabled exhibit certain characteristicssuch as hyper-activity, in-attention, lack of co-ordination, memory disorders, etc. He adds that it is obvious that the combination of these various and many other characteristics lead to real problems for the child. Lerner (1976) states that hyperkinetic children have an extremely short attention span and are likely to talk too much in class, and constantly fight with friends, siblings, and class-mates. Their behaviour is described as impulsive or driven. This type of behaviour is mostly observed in learning disabled children. In the present

investigation also many interesting results were obtained as regards to behaviour of the learning disabled pupils. The eight aspects of behaviour comprising this area relate to to the childs manner of participation in the class room. The child's co-operation, attention, ability to organise, ability to cope with new situations, social acceptance, acceptance of responsibility, completion of assignments and tactfulness are the eight parameters studied under this area.

TABLE 30

AREA IV

Percentages of pupils falling under each dimension of the aspects of the AREA IV (Boys & Girls) : No.50

ASPECT OF THE AREA	DIMENSION OF THE ASPECT				
	1	2	3	4	5
(i)	9.2	30.7	60.1	-	-
(ii)	12.7	37.1	50.2	-	-
(iii)	13.2	35.7	51.1	-	-
(iv)	10.2	28.7	61.1	-	-
(v)	9.5	22.3	68.2	-	-
(vi)	12.8	35.0	52.2	-	-
(vii)	11.7	31.8	56.5	-	-
(viii)	10.2	24.7	65.1	-	-

TABLE 30 (a)

AREA IV : BEHAVIOUR

Percentages of boys falling under each dimension of the aspects of the AREA IV (Boys) : No.26

ASPECT OF THE AREA	DIMENSION OF THE ASPECT				
	1	2	3	4	5
(i)	9.2	22.8	6.8	-	-
(ii)	19.0	34.6	46.4	-	-
(iii)	15.8	34.6	49.6	-	-
(iv)	6.2	25.1	68.7	-	-
(v)	5.8	30.2	64.0	-	-
(vi)	8.7	35.8	55.5	-	-
(vii)	9.6	39.4	51.0	-	-
(viii)	7.2	20.3	72.5	-	-

TABLE 30 (b)

AREA IV : BEHAVIOUR

Percentages of girls falling under each dimension of the aspects of the AREA IV (Girls) : No.24

ASPECT OF THE AREA	DIMENSION OF THE ASPECT				
	1	2	3	4	5
(i)	9.8	31.8	58.4	-	-
(ii)	7.8	30.6	61.6	-	-
(iii)	11.2	32.8	56.0	-	-
(iv)	8.3	27.5	64.2	-	-
(v)	3.5	24.3	72.2	-	-
(vi)	8.1	34.0	57.9	-	-
(vii)	12.2	41.6	46.2	-	-
(viii)	5.2	26.4	68.4	-	-

The percentages of learning disabled pupils falling under each dimension of the aspects of the AREA are presented in Table 30. Table 30 (a) and Table 30 (b) show the percentages of boys and girls falling under each dimension. It is interesting to note that all pupils, even boys and girls separately fall under the third dimension in each aspect in the area. The same trend was observed even in the area 'ORIENTATION'.

ASPECT (i) : CO-OPERATION

60.1% of pupils fall under third dimension which reveals that the learning disabled pupils have the quality of waiting for their turn. But they may not co-operate well. Their co-operation is found to be average at their age level and grade level. This is really very encouraging trait of the children, since something can be done for them to promote the behaviour of co-operation by adult (teacher) encouragement or any motivation, which would in turn help the child to promote his academic standard. 68% of boys and 58.4% of girls fall under this dimension.

CHARACTERISTIC NO. 14 : Co-operates at the age level and grade level - waits for his turn.

ASPECT (ii) : ATTENTION

Contradictory to the results observed in the review, 50.2% of pupils were found to be attentive adequately. However, 37% of pupils were also found to be rarely listening and their

attention frequently wandering. In other words, the attention span is not above average and it is not long attention span. Hence it may be observed that in this study the attention span of these is not short as observed in the earlier studies but adequate. This is also an encouraging observation on the behaviour of these children. This result is supported by the percentages of boys and girls falling under this dimension. 46.4% of boys and 61.6% of girls were found to belong to this dimension. Here, it noticed that boys percentage is low when compared with girls. 34.0% of boys belong to the category who rarely listens and whose attention frequently wanders. This shows that the attention of boys might be distractible to an extent when compared with the girls.

CHARACTERISTIC NO. 15 : The span of attention is adequate but not upto the mark.

ASPECT (iii) : ABILITY TO ORGANISE

A pupil to succeed in his academic line should possess the quality of completing the assignments given to him in a highly organised and meticulous manner. In the present study, the learning disabled were found to be not so bad in this aspect. Though they do not possess this quality as expected above, they were found to possess ability to maintain average organisation of work and they were also found to be careful. 51.1% of pupils and 49.6% of boys and 56% of girls belong to this dimension. However, a considerable

percentage of pupils and boys were also found to be often disorganised in manner of work; they were inexact and careless.

Thus it is accepted that they possess only average ability organising things but not at the expected level.

CHARACTERISTIC NO. 16 : Average ability to organise and complete the work assigned.

ASPECT (iv) : ABILITY TO COPE UP WITH NEW SITUATION

The aspect examines the ability of the child in regard to degree of adaptation to new situations. We also understand here whether child lacks self control.

In the present study, though the learning disabled pupils do adapt so easily and quickly, they do not become excitable or over-react with new situation. Their adaptation was found to be adequate to their age and grade as we observe that 61.1% of children fall under this dimension. 60.7% of boys and 64.2% of girls belong to this category. There is no sign of self confidence among them.

CHARACTERISTIC NO. 17 : Adapts adequately to new situations at an average level.

ASPECT (v) : SOCIAL ACCEPTANCE

It is observed that 68.2% of learning disabled pupils are liked by others but not to a great extent. This reveals that these children show social acceptance which is plus point.

When the result is viewed sex-wise, 64% of boys and 72.2% of girls were found to be liked by others at their age and grade levels.

CHARACTERISTIC NO. 18 : The learning disabled were found to be liked by others at an average level.

ASPECT (vi) : ACCEPTANCE OF RESPONSIBILITY

The acceptance of responsibility was also found to be average which is adequate to their age and grade levels. Though they do not take initiative themselves to undertake any responsibility, they do not avoid to undertake any responsibility. They certainly accept responsibility which behaviour of them is to be appreciated. 52.2% of pupils under study, 55.5% of boys and 57.9% of girls were found to have possessed this behaviour.

CHARACTERISTIC NO. 19 : The learning disabled pupils accept responsibility adequately.

ASPECT (vii) : COMPLETION OF ASSIGNMENTS

Any one to show perfect academic progress should complete the assignment given by the teachers without being supervised. He or she should complete them voluntarily. In the present study, though they do not fail to complete the given assignment, they have average ability to follow through on assignments. This ability was found among 56.5% of pupils under study. 51% of boys and 46.2% of girls showed this trait.

However, good percentage of boys and girls were found to be (39.4% and 41.6%) seldom finishing their assignments even with guidance. Thus it may be carefully noted that these pupils are not up to the mark in completing the assignments, which behaviour might be their cause for their academic failure. Here the attention of teachers and educators is to be brought to focus. As stated earlier, there will be a chance for the learning disabled pupils to fall in the regular academic stream, if provided any specialised instruction or guidance. So if they are guided properly as and when required, these children might complete their assignments regularly which might help them in improving their academic work.

CHARACTERISTIC NO. 20 : Average ability to follow through on assignments.

ASPECT(viii) : TACTFULNESS

65.1% of learning disabled pupils in the present study were found to be possessing average tactfulness. Of course, they are not rude rather disregards others feelings. They were found to be occasionally socially inappropriate. The percentage of boys seems to be 72.5% and that of girls 68.4%.

CHARACTERISTIC NO. 21 : Average tactfulness and occasionally socially inappropriate.

AREA V : MOTOR

A child's problem in learning can be traced to an inadequate development of the general motor system. Such children need more practice and experience in perfecting motor skills. Getman et al (1968) suggested activities for six areas of development : general co-ordination, practice in balance, practice in eye-hand co-ordination, practice in eye-movement, practice in form recognition and practice in visual memory. Four motor generalisations are discussed by Kephart as important to success in school : balance and maintenance of posture, contact, locomotion and receipt and propulsion. The positive relationship of each of these generalisations to learning was discussed by Kephart in his study (Kephart, 1963).

In the present study too, the child's balance, general co-ordination and use of hands in class-room activities were studied. As a child may have no motor difficulties or may have one type of difficulty or sometimes the combination of the above three, namely, general co-ordination, balance and mannual dexterity, great care was taken by the teachers in rating the motor ability of the pupil. Tables 31, 31 (a) and 31 (b) show the results.

TABLE 31

AREA V : MOTOR

Percentages of pupils falling under each dimension of the aspects of the AREA V (Boys & Girls) : No.50

ASPECT OF THE AREA	DIMENSION OF THE ASPECT				
	1	2	3	4	5
(i)	9.6	25.0	65.4	-	-
(ii)	6.5	20.5	73.0	-	-
(iii)	5.0	18.0	77.0	-	-

TABLE 31 (a)

AREA V : MOTOR

Percentages of Boys falling under each dimension of the aspects of the AREA V (Boys) : No.26

ASPECT OF THE AREA	DIMENSION OF THE ASPECT				
	1	2	3	4	5
(i)	12.8	18.7	68.5	-	-
(ii)	4.2	22.8	73.0	-	-
(iii)	8.1	14.7	77.2	-	-

TABLE 31 (b)

AREA V : MOTOR

Percentages of Girls falling under each dimension of the aspects of the AREA V : (Girls) No.24

ASPECT OF THE AREA	DIMENSION OF THE ASPECT				
	1	2	3	4	5
(i)	3.2	31.4	65.4	-	-
(ii)	5.6	20.3	74.1	-	-
(iii)	6.4	19.3	74.3	-	-

ASPECT (i) : GENERAL CO-ORDINATION

The subjects of the present study were found to be average in general co-ordination. They sometimes looked to be outstanding while running, climbing, hooping and walking but not graceful. However, the co-ordination was not at all awkward. 65.4% of pupils fall under this category. The same trait was observed in the case of boys and girls when viewed sex-wise. 68.5% of boys and 65.4% of girls showed the same trend.

CHARACTERISTIC NO. 22 : Average co-ordination but not graceful.

ASPECT (ii) : BALANCE

As stated earlier, balance of the child is an important requisite to success in school. The pupils in the present study possess average balance but not outstanding. They have adequate equilibrium only. Thus they may not be well in activities requiring balance. 73% of pupils in the present study have the ability to do activities with average balance. They were found to maintain adequate equilibrium. In this aspect 73% of boys and 74.1% of girls show the same trend.

CHARACTERISTIC NO. 23 : Average ability to balance while doing activites.

ASPECT (iii) : ABILITY TO MANIPULATE (MANUAL DEXTERITY)

77% of the learning disabled were found to have adequate dexterity for the age. They were able to manipulate well. This is really an excellent quality which is needed for the progress in the academic line. They would certainly come to the expected level with little guidance as they have capacity ti manipulate well the given equipment. 77.2% of boys and 74.3% of girls fall under this category.

CHARACTERISTIC NO. 24 : Possesses adequate dexterity and manipulates well.

CHAPTER V

SUMMARY & CONCLUSION

The present research is designed to identify rural children with learning disabilities. The research further attempts to study the characteristics of the learning disabled children. In the present study, any pupil who qualifies for the label 'learning disabled' is the one who is experiencing serious academic difficulties despite adequate intellectual endowment and the absence of academically significant sensory impairments or physical disabilities.

In this investigation, pupils from rural area of age group 9-11 years were chosen as the subjects, as it is observed that during the early ages, five to ten years old range, the child's own basic potentials express themselves more clearly and are less overlaid by the secondary effects of experience of success or failure than in older children.

In a research of this type, the co-operation of pupils. teachers and headmasters is indispensable. The authorities of the department of Education also figure because their official permission is an important technical requirement. Fortunately, the experience of the present investigator in this matter was one of total satisfaction. All the concerned persons showed a great deal of interest and enthusiasm.

In particular, the headmasters considered this type of research so valuable that they readily rendered their co-operation in the arrangements required. They induced teachers to extend their co-operation too.

The investigation was conducted on a sample of 923 pupils from 20 elementary schools from the Panchayat Union of Chittalapakkam in the state of Tamil Nadu. Care was taken to choose the sample of schools from the different areas of the union so that the sample represents the entire union. In order to choose the normal and the above normal intelligent pupils from among 923 pupils, Raven's Coloured Progressive Matrices Test was administered. An Achievement Test was constructed, standardised and administered to the above sample. But due to various reasons, a few children were absent and finally the Achievement Test could be administered to 720 pupils only. After identifying 133 learning disabled pupils among them, the PUPIL PERSONAL DATA SCHEDULE developed by the investigator was administered to them to collect data relating to their identifying information, birth history, health history, developmental history and their educational and home factors. After administering the PUPIL BEHAVIOUR RATING SCALE to the above 133 pupils, 50 hard-core learning

disabled pupils were identified. The characteristics of these children in terms of learning and behaviour were studied using the Pupil Behaviour Rating Scale. The data were statistically treated to study the characteristics of the children.

In this chapter, the summary of findings is presented and discussed at length.

SUMMARY OF FINDINGS

The following is a summary of the main findings of the present investigation.

PREVALENCE OF THE LEARNING DISABLED

In the present study, it was found that 18.5% of the research population were found to be learning disabled.

The study also reveals that the prevalence of hard-core case of the learning disabled was 6.94% of the research population. In other words, with the more stringent criteria, the study revealed that approximately one-third of those initially identified fell into the category of the learning disabled.

CHARACTERISTICS OF LEARNING DISABLED

I BASIC VARIABLES CHARACTERISTIC OF LEARNING DISABILITY

a) PUPIL RELATED : 1) Poor Study Habits, 2) Negative attitude towards studies.

b) PARENT RELATED : Low Socio-economic Status of parents.

c) SCHOOL RELATED : 1) Lack of facilities for early identification of learning disabled, 2) Lack of facilities for specialised instruction for learning disabled.

II LEARNING AND BEHAVIOUR CHARACTERISTICS

The following learning and behaviour characteristics have been observed in the present study.

1) Inability to follow and remember the class room directions unless individual help is provided.

2) In-attentive to the class room discussion.

3) Inability to retain things unless repeated often.

4) Inability to grasp simple word meanings; misunderstands the words.

5) Inability to speak in complete sentences with correct sentence structure.

6) Possesses limited vocabulary.

7) Inability to recall words to express.

8) Inability to relate facts appropriately.

9) Inability to relate ideas in a meaningful manner.

10) Average ability in promptness.

11) Ability to manoeuvre in familiar locations only.

12) Average ability in judging relationships.

13) Average ability to distinguish the directions.

14) Co-operates with others at his age and grade levels; waits for his turn.

15) Attends adequately to important aspects--but attention span in not unto the mark.

16) Average ability to organise the work assigned.

17) Adapts adequately to new situations.

18) Liked by others but average social acceptance.

19) Adequate acceptance of responsibility.

20) Average ability to complete the given assignment.

21) Average tactfulness - occasionally socially inappropriate.

22) Average co-ordination while performing activities, but not graceful.

23) Average ability to balance while doing activities but not outstanding.

24) Adequate dexterity, manipulates well the given equipment.

DISCUSSION

Perhaps the most important point of departure in the present investigation is the early identification of the children suffering from learning disability. The present investigator, as stated in the earlier chapter, is of the opinion that there should be programmes for early identification of such children to shorten the time required

to remediate the problem. It is found that the early identification would prevent their maladaptive behaviour patterns or any inefficient motoric responses. Sooner the high-risk learning disabled children are recognised, the greater the chances of preventing the failure.

Many researchers pointed out that the children with learning disabilities were identified primarily at the elementary school stage, since such disabilities are most visible during this stage in the form of deficiencies in reading, calculating, spelling, etc. They also strongly recommended that a comprehensive approach to this field must start as early in life as possible.

As stated earlier in this report, if this area is neglected any more, the country may face a high drop-out rate of pupils at the elementary stage of education. Even many studies conducted abroad proved that between 85% to 90% of all juveniles sentenced to correctional schools suffered from clinically provable learning disabilities.

It is observed that in India, the involvement of researchers in this field is not satisfactory and no educational services are provided by the schools to these unfortunate lot of children. It is also noticed that no teacher programmes are existent in this direction. There is no legislation in the country to take utmost care of these children.

The present study revealed that 18.5% of research population suffered from learning disabilities. With more stringent criteria, the study shows that the prevalence of learning disability was 6.94% of the research population. This result is in par with the results obtained at the international level as reviewed in the earlier chapter.

This shows that the field needs the immediate attention of the departments of education, researchers, administrators and parents of our country to identify these children to bring them immediately to the main stream of education before they become drop-outs or juveniles. They should be provided with appropriate preventive services.

As regards to the characteristics of these children, many interesting results were obtained which guide us to tackle them scientifically in order to save them from their academic failures.

The investigator divided the characteristic observed in this study into two categories. 1) Basic characteristic, and 2) Learning and behavioural characteristics.

Normally a question would arise as to the relative contribution of teaching facilities in schools in comparison to the personal variables such as intelligence, study habits and socio-economic status.

In the present investigation, it is observed that the disability of these children in basically due to three factors though they are normal in intelligence, which factors, the author termed as basic characteristics. The author in his previous study on the relationship of a few selected variables to the academic achievement (Ramoji Rao, 1976) found the correlation between intelligence and achievement as .44. This shows that the contribution of study habits, socio-economic status and school facilities may join together to promote the academic strength of the child. In the same study, it was observed that the variable socio-economic status of pupils has a high correlation co-efficient of .77 with achievement. When the effects of study habits and intelligence are partialled out, the above correlation did not vary to any great extent. This shows that socio-economic status has a large relationship to achievement. He further found a correlation of .45 between study habits and achievement, which relationship increases to .55 when intelligence is held constant. In other words, contribution of the variable, study habits is more to achievement when compared with intelligence.

In the present study too, most significant and meaningful observations were made in this direction. The data collected by the Pupil's Personal Data Schedule revealed that the pupils of the present study had poor study habits and showed negative attitude towards studies. Secondly, as the pupils hail from the rural area and they belonged to low socio-economic group, they could not be provided with any facilities by their parents to promote their study habits by providing them with necesary study equipment, study rooms and study atmosphere. The previous finding of the author that the variable, study habits, correlates with the variable socio-economic status looks to be most acceptable in the light of the present observation.

As regards to school related variables, the schools chosen for the study have no facilities to identify the learning disabled pupils at the early stage. Even though any such children were traced by chance, there were no facilities to provide any specialised instruction to them to bring them into main stream of education. Thus it may be concluded that the three basic characteristics that might be responsible for the disability of these pupils are 1) Poor study habits, 2) Low socio-economic status, and 3) Lack of facilities in schools to identify and deal with these children.

At this stage, it would be advantageous to discuss the learning and behaviour characteristics in the light of the results obtained in the present study. The children of the present sample showed two different trends regarding these characteristics.

As regards to the ability to their auditory comprehension in listening and the ability to spoken language, they were found to be below average. When the results were further examined, it was found that their behaviour, orientation and motoric responses, though were not unto the mark, they showed above average ability at their age and grade levels.

They were found to be inattentive to the classroom discussion as such they were unable to follow and remember the class room directions unless they are individually helped by the teachers often. They were even unable to retain the orally given information in the class room and even on the simple word meanings since the attention span of these children to the class room work was short. Hence the variable INATTENTION TO THE CLASS ROOM WORK seems to be a significant characteristic. The results further reveal that these children are unable to speak in complete sentences whenever they want to express anything they have in their minds. They possessed limited vocabulary.

They grope for ideas. They fail to relate the facts appropriately. Thus another significant characteristic observed in this study is the POOR SPEAKING ABILITY.

It is obvious that any child would have developed learning disability if he was inattentive to the class room situation and could not express his problems and ideas orally in proper language to his teacher in the class room. Thus the teacher should take the initiative to promote interest in such child to attend the class work through necessary motivations. Secondly, the child should be taught the necessary vocabulary at the age level and grade level to express in correct words.

As regards to their behaviour, orientation and motoric responses, interesting results were observed.

The subjects under investigation possessed average abilities on all the aspects of there three areas which looks to be a plus point to them to overcome with their learning disabilities, provided the teachers and the persons interested do understand them in right perspective.

It may be recalled that the birth history, development history, health history and home background of the children in the sample were found to be normal and satisfactory. The children even joined the school at right age and showed positive attitude to go to school.

All these factors lead us to an understanding that it is the ability of the teacher to identify and teach such children with a clear cut knowledge of their characteristics that counts much, rather than the inability of the child to learn. The child may therefore require specialised instruction in order to permit the use of his or her full intellectual potential and abilities such as the above which are pertinent to the academic achievement.

The observations made in this study guide us to deal with a learning disabled child through three different angles. In the first place, the government should provide these rural children mid-day meals, free supply of books and other necessary study equipment so that they may overcome with the problem of low socio-economic status of their parents. This might help us to promote the study activities of these pupils both at school and at home to a great extent.

Secondly, the teachers should be made responsible to cultivate healthy study habits among these children through necessary motivation which in turn might promote a positive attitude towards studies among them.

Finally, the role of the administrators in the departments of education and the heads of schools comes into picture. The schools should identify the learning

disabled children as early as possible and provide specialised instruction so that the disability may disappear. Everyone should note that the problem of these children is an educational but not a psychological or a medical problem. Teachers should note that these children possess average behavioural characteristics which may be utilised to the right perspective to put them on to the main line so that they may overcome their learning problems.

Thus the responsibility of helping these children ultimately rests with the government, administrators and teachers since a learning disability is not a complete lack in the child's ability to learn as observed through their learning and behaviour characteristics but it is a lack in the educator's ability to identify and teach them with specialised educational programmes.

In this connection, the author adds that it is not an attack on teachers or administrators but it is a matter of pointing out that all too little is known about a learning child and that the little that we do know has not been adequately disseminated.

It may therefore be concluded that an immediate attention of the policy makers, the administrators, the teachers and the teacher educators is required to implement and induct the above findings into our educational system to save this unfortunate lot from becoming juveniles or drop-outs.

A FEW SUGGESTIONS

1) A suitable legislation may be enacted in the country [illegible] services for learning disabled children.

2) A variety of educational service systems and placement facilities should be developed by the administrators for diagnosing and treating children with learning problems. Among the systems of educational services to be developed in schools for teaching children with learning disabilities may be residential schools, special day schools, self-contained class rooms, resource rooms, main streaming programmes and itinerant programmes in which a itinerant teacher travels to several schools and teaches children individually or in groups.

3) The diagnostic and treatment services for children with learning disabilities should not only be offered in school settings but also by social workers and guidance counsellors. Such inter-disciplinary services would help these children to a greater extent.

4) There should be excellent programmes for the teacher trainees in this field and a good length of continuous research work should be encouraged by involving the teachers and teacher educators.

REFERENCES

ALAN O. ROSS : Learning Disabilities, the unrealised potential, McGraw-Hill Book Company, New York, 1977.

BATEMAN, BARBARA : "An Educator's View of a diagnostic approach to Learning Disorders" in Janet W. Lerner, Children with Learning Disabilities", P-74, Houghton Mifflin Co., Boston, 1976.

BUKTENICA, NORMAN : "Identification of Potential Disorders", Journal of Learning Disabilities, 4, 7 (1971), 379-383.

DENHOFF, E., PETER HAINSWORTH & MARIAN HAINSWORTH : Learning Disabilities and early childhood education : "An information processing approach". PP 111-150 in H. Myklebust, Vol.II, New York, Grune & Stratton, 1971.

DUDLEY HAGGER, T. : Learning Disabilities in Australia, in Reading Disabilities-an international perspective, Edited by Lester Tarnopol and Muriel Tarnopol, University Park Press, Maryland, 1976.

GEARHEART, B.R. : "Learning Disabilities Educational Strategies", The C.V. Mosby Company, Saint Louis, 1973.

GOODMAN LIBBY, MANN LESTER : Learning Disabilities in the Secondary School, Issues and Practices, Grune & Stratton, New York, 1976.

JANET W. LERNER : Children with Learning Disabilities, Houghton Mifflin Company, Boston, 1976.

JANSEN, M., HANSEN, M. et al : Special Education in Denmark, in Reading Disabilities - An Internal Perspective - Edited by Lester Tarnopol and Muriel Tarnopol, University Park Press, Maryland, 1976.

JOEP J. DUMONT : Learning Disabilities in the Netherlands, in Reading Disabilities, 1976.

KASS, C.E. & H.R. MYKLEBUST : "Learning Disabilities : An Educational Definition", Journal of Learning Disabilities, 2, No.7 (July 1969), 377-379.

KEOGH, BARBARA ed : Early identification of children with potential learning problems, "Journal of Special Education", 4, 3 (1970), 309-363.

KIRK, S.A. : Educating exceptional children, Houghton Mifflin Company, Boston, 1972.

KIRK, SAMUEL, A., and WINIFRED, D. KIRK : Psycholinguistic learning disabilities : Diagnosis and Remediation, Urbana, Ill : University of Illinois Press, 1971.

LARRY A. FAAS : "Learning Disabilities - A Competency Based approach", Houghton Mifflin Company, Boston, 1976.

LESTER TARNOPOL & MURIEL TARNOPOL : "Reading Disabilities - An International Perspective, University Park Press, Baltimore, Maryland, 1976.

LOUISE BATES AMES : Learning Disabilities : The developmental point of view, in Progress in Learning Disabilities, Volume 1, Edited by Helmer R. Myklebust, Grune & Stratton, INC, New York, 1968.

LOVITT, THOMAS C : "Assessment of children with learning disabilities" - Exceptional children 34 (1967), in children with learning disabilities by Janet W. Lerner, Houghton Mifflin Company, Boston, 1976.

MARIANNA KLEES : "Learning Disabilities in Belgium" in Reading Disabilities - an international perspective, Edited by Lester Tarnopol and Muriel Tarnopol, University Park Press, Maryland, 1976.

MATEJCEK, Z, DYSLEXIA : Diagnostic and treatment findings in Reading Disabilities - an internal perspective, Edited by Lester Tarnopol and Muriel Tarnopol, University Park Press, Maryland, 1976.

MYKLEBUST, H. & BOSHES : "Minimal Brain Damage in Children", PP 80-81 in Janet W. Lerner, "Children with Learning Disabilities", Houghton Mifflin Company, Boston, 1976.

NATIONAL ADVISORY COMMITTEE : On Hnadicapped Children - Special Education for handicapped children in Children with Learning Disabilities, Janet W. Lerner, Houghton Mifflin Company, Boston, 1976, P-11.

OTHMAR KOWARIK : "Reading-Writing problems in Austria", Published in Reading Disabilities - an international perspective, Edited by Lester Tarnopol and Muriel Tarnopol, University Park Press, Maryland, 1976.

RAIJA SYVALAHTI : Reading and Writing disabilities in Finland in Reading Disabilities in internal perspective, Edited by Lester Tarnopol and Muriel Tarnopol, University Park Press, Maryland, 1976.

RAMOJI RAO, Y. : A Study of the relationship of a few selected variables to the academic achievement indices of secondary schools, An unpublished Ph.D. Thesis, University of Madras, 1976.

VALETT, R.E. : Effective teaching - A guide to diagnostic-perspective task analysis in "Learning Disabilities", Larry A. Faas, Houghton Mifflin Company, U.S.A.,1976,P-16.

WALLACE, G. and J. KANFFMAN : Teaching children with learning problems : Merrill, 1973.

WALZER, S. and J.B. RICHMOND : "The Epidemiology of Learning Disorders" in Learning Disabilities, Larry A. Faas, Houghton Mifflin Company, U.S.A., 1976, P-16.

APPENDIX I

PUPIL BEHAVIOUR RATING SCALE

Name . ... No . . . . School . . . . . . Grade .. ..

Sex - . ... Date · . .. Teacher .. . .

1 AUDITORY COMPREHENSION AND LISTENING

	1	2	3	4	5
Ability to follow directions	Always confused, Cannot or is unable to follow directions	Usually follows simple oral directions but often needs individual help	Follows directions that are familiar and/or not complex	Remembers and follows extended directions	Unusually skillful in remembering and following directions
Comprehension of class discussion	Always inattentive and /or unable to follow and understand discussions	Listens but rarely comprehends well ' mind often wanders from discussion	Listens and follows discussions according to age and grade	Understands well and benefits from discussions	Becomes involved and shows unusual understanding of material discussed
Ability to retain orally given information	Almost total lack of recall, poor memory	Retains simple ideas and procedures if repeated often	Average retention of materials, adequate memory for age & grade	Remembers procedures and information from various sources, good immediate and delayed recall	Superior memory for both details and content
Comprehension of word meaning	Extremely immature level of understanding	Fails to grasp simple word meanings, misunderstands words at grade level	Good grasp of grade level vocabulary for age and grade	Understands all grade level vocabulary as well as higher level word meaning	Superior understanding of vocabulary, understands many abstract words

II SPOKEN LANGUAGE

1	2	3	4	5
Ability to speak in complete sentences using accurate sentence structure				
Always uses incomplete sentences with grammatical errors	Frequently uses incomplete sentences and or numerous grammatical errors	Uses correct grammar, few errors of omission or incorrect use of prepositions, verb tense, pronouns	Above average oral language, rarely makes grammatical errors	Always speaks in grammatically correct sentences
Vocabulary ability				
Always uses immature or improper vocabulary	Limited vocabulary including primarily simple nouns, few precise, descriptive words	Adequate vocabulary for age and grade	Above-average vocabulary, uses numerous precise descriptive words	High level vocabulary, always uses precise words to convey message, uses abstraction
Ability to recall words				
Unable to call forth the exact word	Often gropes for words to express himself	Occasionally searches for correct word but adequate for age and grade	Above-average ability, rarely hesitates on a word	Always speaks well; never hesitates or substitutes words
Ability to formulate ideas from isolated facts				
Unable to relate isolated facts	Has difficulty relating isolated facts, ideas are incomplete and scattered	Usually relates facts into meaningful ideas, adequate for age and grade	Relates facts and ideas well	Outstanding ability in relating facts appropriately
Ability to tell stories and relate experiences				
Unable to tell a comprehensible story	Has difficulty relating ideas in logical sequence	Average ability to tell stories	Above average, uses logical sequence	Exceptional ability to relate ideas in logical meaningful manner

III ORIENTATION

1	2	3	4	5
Promptness				
Lacks grasp of meaning of time , always late or confused	Poor time concept , tends to dawdle , often late	Average understanding of time for age and grade	Prompt, late only with good reason	Very skillful at handling schedules , plans and organizes well
Spatial orientation				
Always confused , unable to navigate around classroom or school, playground or neighbourhood	Frequently gets lost in relatively familiar surroundings	Can maneuver in familiar locations , average for age and grade	Above average ability , rarely lost or confused	Never lost , adapts to new locations ; Situations, places
Judgement of relationships: big, little ; far, close ; light, heavy				
Judgements relationships very inadequate	Makes elementary judgements successfully	Average ability in relation to age and grade	Accurate judgements but does not generalize to new situations	Unusually precise judgements , generalizes to new situations and experiences
Learning directions				
Highly confused , unable to distinguish directions as right, left, north and south	Sometimes exhibits directional confusion	Average , uses R vs. L, N-S-E-W	Good sense of direction , seldom confused	Excellent sense of direction

IV BEHAVIOUR

1	2	3	4	5
Co-operation				
Continually disrupts classroom, unable to inhibit responses	Frequently demands spotlight, often speaks out of turn	Waits his turn, average for age and grade	Cooperates well, above average	Cooperates without adult encouragement
Attention				
Is never attentive, very distractible	Rarely listens, attention frequently wanders frequently wanders	Attends adequately for age and grade	Above average, almost always attends	Always attends to important aspects; long attention span
Ability to organize				
Is highly disorganized, very solvently	Often disorganized in manner of working; inexact, careless	Maintains average organization of work, careful	Above-average ability to organize and complete work, consistent	Always completes assignments in a highly organized and meticulous manner
Ability to cope with new situations: parties trips, unanticipated changes in routine				
Becomes extremely excitable, totally lacking in self control	Often over-reacts, new situations disturbing	Adapts adequately for age and grade	Adapts easily and quickly with self confidence	Excellent adaptation, utilizing initiative and independence

(Contd)

IV BEHAVIOUR—(Contd)

	1	2	3	4	5
Social acceptance	Avoided by others	Tolerated by others	Liked by others ; average for age and grade	Well liked by others	Sought by others
Acceptance of responsibility	Rejects responsibility , never initiates activities	Avoids responsibility ; limited acceptance of role for age	Accepts responsibility , adequate for age and grade	Enjoys responsibility , above average , frequently takes initiative or volunteers	Seeks responsibility , almost always takes initiative with enthusiasm
Completion of assignments	Never finishes, even with guidance	Seldom finishes, even with guidance	Average ability to follow through on assignments	Above-average ability to complete assignments	Always completes assignments without supervision
Tactfulness	Always rude	Usually disregards other's feelings	Average tactfulness ; occasionally socially inappropriate	Above average tactfulness , rarely socially inappropriate	Always tactful , never socially inappropriate

V MOTOR

1	2	3	4	5
General Coordination : running, climbing, hopping, walking				
Very poorly co-ordinated , clumsy	Below average co-ordination, awkward	Average coordination for age , outstanding but not graceful	Above-average coordination , does well in these activities	Exceptional ability , excels in this area
Balance				
Very poor balance	Below-average ' falls frequently	Average balance for age , not outstanding but adequate equilibrium	Above-average , does well in activities requiring balance	Exceptional ability excels in balancing
Ability to manipulate utensils and equipment : manual dexterity				
Very poor in manual manipulation	Awakard in manual dexterity	Adequate dexterity for age, manipulates well	Above-average manual dexterity	Almost perfect performance , readily manipulates new equipment

APPENDIX I

PUPIL BEHAVIOUR RATING SCALE

பெயர் .... எண் .... பள்ளி .... தகுதி ....

ஆண் / பெண் .... தேதி .... உபாத்தியாயர் ....

1. வாய்மொழிப் பயிற்சியைக் கேட்டு புரிந்துக்கொள்ளும் திறமை. (Auditory Comprehension and Listening)

	1	2	3	4	5
விதிமுறைகளைக் கடைபிடித்து செயல்படும் திறன்கள் :	எப்போதுமே குழம்பிக் கொள்பவன், புரிந்துக் கொள்ளும் சக்தியற்றவன் அல்லது புரிந்துகொள்ள முடியாதவன்	சாதாரணமாக எளிதான வாய்மொழி விதிகளை பின்பற்றுவான் ஆனால் அநேகமாக பிறருடைய உதவியை நாடுவான்	சுலபமான மற்றும் பழக்கப்பட்ட விதிமுறைகளை மட்டுமே கடைபிடிப்பான்	விளக்கமான விதிமுறைகளை நினைவில் வைத்து அதன் வழி செயல்படுபவன்	நினைவாற்றலிலும் விதிமுறைகளைக் கடைபிடிப்பதிலும் அசாதாரண ற மையுள்ளவன்
வகுப்புக் கலந்துரையாடல்களைப் புரிந்துக் கொள்ளுதல் :	எப்போதுமே கவனித்து, புரிந்துகொண்டு பின்பற்றும் சக்தியில்லாதவன்	கேட்பான், ஆனால் கவனம் செலுத்தாததனால் அரிதாக சொல்வதைப் புரிந்துக் கொள்வான்	வயதிற்கும், வகுப்பிற்கும் தகுந்த உரையாடலாக இருப்பின் கேட்பான், கடைபிடிப்பான்	நன்கு புரிந்துகொண்டு அதனால் பயனடைவான்	கலந்துரையாடலில் தன்னை மிகவும் ஈடுபடுத்திக்கொண்டு விவாதிக்கப்பட்ட கருத்துக்களை மிகவும் நன்றாக புரிந்துக் கொள்வான்
வாய்மொழிக் கருத்துக்களை மனதில் கொள்ளும் திறன் :	மொத்தத்தில் ஞாபக சக்தியே இல்லாதவன் அல்லது குறைந்த ஞாபக சக்தியுடையவன்	சாதாரண யோசனைகளையும், முறைகளையும் பல முறை எடுத்துச் சொன்னால் மட்டுமே அதனை மனதில் பதியவைத்துக் கொள்வான்	வயதிற்கும், வகுப்பிற்கும் தகுந்த சராசரி நினைவாற்றல் உள்ளவன்	பல இடங்களில் கேட்கும் கருத்துக்களையும், விதிமுறைகளையும் நன்கு நினைவு கொள்வான். தற்போதைய மற்றும் பழைய விஷயங்களையும் நன்கு நினைவில் வைத்துக் கொள்வான்	விவரங்களையும், கருத்துக்களையும் சிறந்த முறையில் ஞாபகம் வைத்துக்கொள்வான்
சொற்பொருட்களைப் புரிந்துக் கொள்ளுதல் :	புரிந்துக் கொள்ளும் சக்தி [illegible] வளர்ச்சி அடையாதவன்	சுலபமான வார்த்தைகளுக்கும் பொருள் புரிந்துக் கொள்ள முடியாதவன் மற்றும் வகுப்பிற்குரிய வார்த்தைகளை தவறான முறையில் புரிந்துக் கொள்பவன்.	வயதிற்கும், வகுப்பிற்கும் தகுந்த வார்த்தைகளின் பொருளை நன்றாக புரிந்து கொள்பவன்	வகுப்பிற்கேற்ற வார்த்தைகளையும், அதற்கும் மேற்பட்ட வார்த்தைகளையும் புரிந்துக் கொள்பவன்	வகுப்பிற்கேற்ற வார்த்தைகளையும் கருத்திலில்லாத வார்த்தைகளையும் மிக எளிதில் புரிந்துக் கொள்பவன்

உ. பேசும் மொழி (Spoken Language)

1	2	3	4	5
சரியான வாக்கிய அமைப்பை உபயோகித்து முழுமையான வாக்கியங்களை பேசும் திறமை :				
எபபோதும இலககணப பிழைகளோடு சோநத முழுமையிலலாத வாககியஙகளையே பேசுவான	முழுமையிலலாத இலககணப பிழைகளோடு கூடிய வாககியஙகளையே அடிககடி பேசுவான	சரியான இலககணததை உபயோகிபபான ஆனுல தொழில பெயா, காலம முதலியவறறில சில வறறை தவருக உபயோகிபபான	பேசசு மொழியில மிகவும சிறநத திறமையுளளவன ஆனுல எபபோதாவது சில இலககணப பிழைகளோடு பேசுவான	எபபோதும இலககண முறைகளோடு சரியான வாககியஙகளை பேசுவான.
நிறைய வார்த்தைகளைத் தெரிந்திருக்கும் திறமை :				
வயதிறகு ஒததுவாராததும, முறையறறதுமான வாாததைகளை உபயோகிபபான	பெயா, குணம சமபநதமான வாாததைகளை மறறும விளககமாக விவரிககப பயனபடும வாாததைகளையும குறைவான அளவில தெரிநது வைததிருபபான	வயதிறகும, வகுபபிறகும ஏறற போதுமான வாாததைகளை அறிநதிருபபான.	விளககமான நிறைய வாாததைகளை மிக அதிகமான அளவில அறிநதிருபபான	வாாததைகளைத தெரிநதிருககும திறமையில மிகவும சிறநதவன எபபோதும சரியான வாாததைகள மூலம செயதிகளைத தெரிவிபபான
வார்த்தைகளை நினைவு கூறும் திறன் ;				
சரியான வாாததையை நினைவுகூற முடியாதவன.	அடிககடி தன மனக கருததை வெளிபபடுததும வாாததைகள கிடைககாமல தேடுபவன	தகுநத நினைவாறறல இருககும ஆனுல, எபபோதாவது சரியான வாாததை கிடைககாமல தேடுபவன	சிறநத நினைவாறறல உளளவன ஆனுல வாாததையை வெளிபடுதத எபபோதாவது தயஙகுவான	எபபோதுமே தயககமினறி வாாததைகளை யாறருமல சரியான முறையில நனருக சொலவான
பல விவரங்களை ஒன்று சேர்த்து சரியான முறையில் கருத்துக்களை உருவாக்கும் திறமை :				
விவரஙகளை ஒனறு சோககும திறமையிலலாதவன	விவரஙகளை ஒனறு சோககச சஷடபபடுவான யோசனைகள, மறறும கருததுககள முழுமையிலலாமலும சிதறியும கிடககும	சாதாரணமாக அவனுடைய வயது, மறறும வகுபபிறகு ஏறற முறையில விவரஙகளை அாததமுளள கருததுககளாகவும், யோசனைகளாகவும, புரிநதுகொளளும திறமையுளளவன	விஷயஙகளையும, யோசனைசளையும மிகவும நனருக சமபநதப படுததுவான	விஷயம, யோசனைகளை சமபநதப படுததுவதில மிகவும சிறநதவன
அனுபவ நிகழ்ச்சிகளையும், கதைகளையும் சொல்லும் திறன் :				
ஒரு கதையும சொலலத திறமையிலலாதவன	தன கருததுககளை சரியான முறையில எடுததுககூறத தெரியாதவன	கதைகளைச சொலவதில சராசரி திறமையுளளவன	கதை மறறும நிகழசசிகளை சரியான முறையில சொலவதில மிக அதிகமான திறமையுளளவன	கருத்துக்களை அர்த்தமுளளதாகவும், சரியான முறையில சொலவதில மிகவும சிறநத திறமையுளளவன

ரு. விழிப்புணர்ச்சி (Orientation)

	1	2	3	4	5
காலம் தவருமை :	காலததின பொருளைப புரிநதுக கொளளத தெரியாதவன எபபோதுமே தாமதமாக வருபவன அலலது காலததின தனமை யறியாது குழமபிக கொளபவன	காலததின தனமையை யறியாதவன எபபோதும தாமதிபபவன நேரததை வீணடிபபவன	வயதிறகும, வகுபபிறகும ஏறற அளவில காலததின தனமையை புரிநதுக கொளபவன.	காலம தவருதவன. ஒரு வேளை தவறினுல அது தகுநத காரணமுடையதாக இருககும.	குறிபபிடட திடடஙகளை நடததிக காடடுவதில மிகவும திறமை வாயநதவன.
இடம் பொறுத்து விழிப்புணர்ச்சி :	எபபோதுமே குழமபிக கொள்பவன வகுபபு, பளளி விளையாடுமிடம, மறறும சுறறு புறததின இடம அறியாமல குழமபிக கொளபவன	பழககபபடட இடஙகளில் கூட அடிககடி காணுமற போயவிடுவான	பழககபபடட இடங்களை அறிநது வைததிருபபதில வயது மறறும வகுபபிறகேறப திறமையுளளவன	மிக அதிக திறமையுளளவன அரிதாகவே எஙகாவது காணுமற போயவிடுவான அலலது குழமபிக கொளவான	எபபோதுமே தவறமாடடான இடஙகளை மறறும சூழநிலைகளுககு ஏறப நடநதுகொளவான
சிறியது, பெரியது, தொலைவு, அருகே, இலேசானது, பளுவானது என்பதன் உறவுகளை அறிந்திருக்கும் திறமை :	உறவுகளை அறிநதுக கொளளும சகதியிலலாதவன.	சாதாரண உறவுகளைப புரிநதுகொளவதிலவெறறியடைபவன	வயதிறகும, வகுபபிறகும ஏறற இமமாதிரியான உறவுகளை சராசரியாகஅறிநது கொணடிருபபவன	சரியாகப புரிநதுக கொளபவன ஆனுல புதிய சூழநிலைகளுககுப பயனபடுததத தெரியாதவன	உறவுகளைப புரிநதுக கொளளும;ஆறறலில மிகவும சிறநதவன
வழிமுறைகளை அறியும் திறன் :	வடககு, தெற்கு, வலது, இடது இவைகளுககுரிய வேறுபாடுகளை கூட தெரிநதுகொளள முடியாமல அலலது இயலாமல மிகவும அதிகமாகக குழமபிக கொளபவன	எபபோதாவது திசைகளை அறிநது கொளவதில சிறு குழபபம அடைவான	திசைகளைபபறறி சராசரியாகப புரிநதுக கொளபவன	திசைகளை அலலது வழிமுறைகளை நனருக அறிநதிருநதும எபபோதாவது குழமபிக கொளபவன	வழிமுறைகளைப பறறி மிகவும அதிகமான அறிவாறறல உடையவன

I. நடத்தை (Behaviour)

	1	2	3	4	5
ஒத்துழைப்பு :	எபபோதும வகுபபிற்கு இடைஞசலாக இருபபான செயலகளை கடடுப்படுததமுடியாதவன.	தனனையே எலலோரும கணகாணிகக வேணடுமெனறு விருமபுபவன தன முறை வருவதறகுளளாகவும, எபபோதும பேசிக கொணடிருபபவன	வகுபபிறகும, வயதிறகும ஏறற நிதானமும, பொறுமையும உளளவன	மிகவும சிறநத முறையில ஒததுழைதது நடபபவன	பெரியவாகளுடைய ஊககமும, துணையும இலலாமலேயே மிகவும நனறாக ஒததுழைபபவன
கவனம் :	எபபோதுமே கவனிகக மாடடான கவனம அடிககடி திசைமாறும,	கவனம அடிககடி திசை மாறுவதால அரிதாகவே கவனிபபான	தன வயதிறகும, வகுபபிறகும ஏறற அளவிறகு கவனம செலுததுவான	கூடுமான வரையில எபபோதும மிக நனறாக கவனிபபான	எபபோதும முககியமான விஷயஙகளை மிக உனனிபபாகவும, நீணட நேரமும கவனிபபான
உருவாக்கும் திறமை ;	எதையுமே ஒழுங்காக உருவாகக முடியாது	அநேகமுறை பொறுபபில்லாமையாலும, அஜாககிரதையாலும வேலைச செயயுமுறையில எதையுமே ஒழுஙகாக உருவாகக முடியாது	வேலை செயவதிலும, உருவாககுவதிலும சராசரி திறமையுளளவன எபபோதும ஜாககிரதையாக இருபபவன	வேலை செயவதிலும, உருவாககுவதிலும சிறநத திறமைமிககவன ஸதிரமாக வேலை செயபவன	கொடுககபபடட வேலைகளை மிக நுணுககமாகவும, சிறநத முறையிலும செயது முடிபபவன
புதிய சூழ்நிலைகளுக்கு ஏற்ப ஒத்துப்போகும் திறமை :	மிகவும உணாசசி வசபபடுபவன மொததததில தனனை கடடுபபடுததிக கொளளும திறமையிலலாதவன	புது சூழநிலைகளில அளவிறகு மீறி நடநதுக கொளபவன இதனால மிகவும தொநதரவாக இருககும	வயதிறகும, வகுபபிறகும ஏறப புதிய சூழநிலைகளில அனுசரிதது நடநதுகொளபவன	தன நமபிககையுடன சுலபமாக உடனடியாக சூழநிலைகளுககேறப தனனை அமைததுக கொளபவன	தன சுய முயறசியில சுதநதிரமாக இதுபோனற சூழநிலைகளில மிகவும நனறாக ஒததுபோகும
சமூக வாழ்க்கை :	எலலோராலும ஒதுககபபடுபவன	பிறரால பொறுததுபபோகக கூடியவன	வயதிறகும, வகுபபிறகும தகுநதவாறு மறறவாகளால விருமபபபடுபவன	எலலோராலும மிகவும விருமபப படுபவன.	மறறவாகளால எபபோதுமே வேணடபபடுபவன

4. நடத்தை (Behaviour)—(Contd)

1	2	3	4	5
பொறுப்புகளை உணர்பவன் :				
பொறுபபுககளை மறுபபவன எநத செயலகளையும ஆரமபிகக விருமபமாடடான	பொறுபபுகளிலிருநது தபபிததுக கொளபவன, தன வயதிறகுடபடட பொறுபபுகளைக குறைநத அளவில ஏறறுககொளபவன	வயதிறகும, வகுபபிறகும தகுதத தன பொறுபபுகளை உணாநது ஒததுககொளபவன	மிகவும விருமபி முனவநது தானாகவே பொறுபபேறறு சிறநத முறையில காரியததை முடிபபான	பொறுபபுகளை முனவநது ஏறறுக கொளவான, கூடுமானவரையில எபபோதும ஊககததோடு தலைமை ஏறறு நடததுவான
கொடுக்கப்பட்ட வேலைகளை முடித்தல் :				
பிறருடைய உதவிகள இருநதாலும கூட எபபோதும காரியஙகளை முடிககமாடடான	பிறருடைய உதவி இருநதாலுமே அரிதாகவே காரியஙகளை முடிபபான	கொடுதத வேலைகளை புரிநது கொளவதறகுரிய சராசரி திறமையுடையவன	வேலைகளைச செயவதறகுரிய திறமை மிகவும உளளவன	மேறபாாவை ஏதுமிலலாமலே அனைததும முடிபபவன
சமயோசித புத்தி ;				
எபபோதுமே முரடடுததனமாக நடநதுககொளபவன.	சாதாரணமாக மறறவாகளின உணாசசிகளைப புரிநதுககொணடு மதிககத தெரியாதவன	சராசரியான சமயோசித புததி இருநதும, சில சமயஙகளில சமூகததில முறையாக நடநதுககொளளமாடடான	மிக அதிகமான சமயோசித புததி உளளவன மிகவும அரிதாகவே சமூகததில முறைகேடாக நடநதுக கொளபவன	எபபோதுமே சமயோசித திறமையுளளவன சமூகததில முறைகேடாக எபபோதுமே நடககமாடடான

5. இயங்கும் சக்தி (Motor)

இணைந்து இயங்குவதில் பொதுத் திறமை : (ஓடுதல், ஏறுதல், இறங்குதல், நொண்டுதல், நடத்தல் முதலியன)

1	2	3	4	5
குறைந்த திறமையுள்ளவன் சுத்தமாகவும், முறையாகவும் இயங்கத் தெரியாதவன்	சராசரிக்குக் குறைவான திறமையுள்ளவன் ஆனால் அசிங்கமாக இருக்கும்	வகுப்பிற்கும், வயதிற்கும் ஏற்பச் சராசரியாக நடப்பான் இயங்கும்போது சரியாக இருக்கும் ஆனால் அழகாக இருக்காது	மிகவும் சிறந்த முறையில் இயங்கத் தெரிந்தவன்.	தனிப்பட்ட திறமையுள்ளவன் இதில் எல்லோரையும் மிஞ்சி விடுவான்

சமநிலை :

1	2	3	4	5
மிகவும் குறைவானவன்	சராசரிக்குக் குறைந்த சமநிலையுள்ளதால் அவன் அடிக்கடி கீழே விழுந்து விடுவான்	வயதிற்கேற்ப சராசரி சமநிலையுள்ளவன் மிகவும் சிறந்த முறையில் இல்லாவிட்டாலும் போதுமான சமநிலை உடையதாய் இருப்பவன்,	சராசரிக்கு அதிகமான சமநிலையுள்ளவன்	இவ்விஷயத்தில் தனிப்பட்ட மிக அதிகத் திறன் உள்ளவன்

பண்டங்கள், சாதனங்கள் முதலியவற்றை கையாளுதல் :

1	2	3	4	5
பொருள்களைக் கையாளும் திறமையில்லாதவன்	மிக அசிங்கமான முறையில் கையாளுபவன்	வயதிற்குத் தக்கபடி கையாளுபவன்	மிக அதிகத் திறமையும் சிறந்த முறையில் கையாளுபவன்	மிகவும் சிறந்த முறையில் கையாளுவதுடன் புதிய பொருட்களையும் கையாளும் திறமையுடையவன்

PUPIL PERSONAL DATA SCHEDULE - APPENDIX III

THE INSTITUTE OF EDUCATIONAL RESEARCH
NCERT - ID RESEARCH PROJECT
PERSONAL DATA SCHEDULE
A PARENTAL REPORT

I IDENTIFYING INFORMATION

Name of the child .... Sex ....

Age .... Mother tongue .... Name of the

School ....

Place .... Class .... Home address .....

....

Father's/Guardian's Name, Education, Occupation and Income

....

Mother's Name, Education, Occupation and Income ....

....

Number of Brothers .... Sisters ....

Birth order of the child ....

II BIRTH HISTORY

a) MATERNAL HISTORY

i) Whether married in relation : YES/NO

ii) Prolonged infertility : YES/NO

iii) Abortions ... : YES/NO

b) PREGNANCY (Mother's condition during pregnancy)

i) Any serious illness/infection : YES/NO

iii) Diabetes ... : YES/NO

iv) Any strong medication : YES/NO

c) BIRTH CONDITIONS

i) Normal ... : YES/NO

ii) Matured birth ... : YES/NO

iii) Any unusual condition of the mother during delivery as transfusion of blood, prolonged : YES/NO ruptured membranes, severe bleeding, difficult or prolonged labor

iv) Any unusual condition of the child as,

a) Extreme unevenness in development : YES/NO

b) Congenital deformity : YES/NO

c) Serious head injury or concussion : YES/NO

d) High fever with convulsions : YES/NO

e) Prolonged period of unconsciousness: YES/NO

f) Jaundice/operation/respiratory problems ... : YES/NO

III DEVELOPMENTAL HISTORY

i) Physical growth for his age : NORMAL/UNUSUAL

ii) Teething structure : NORMAL/UNUSUAL

iii) Age of sitting (after 1½ yrs. of age) ... : NORMAL/UNUSUAL

iv) Age of first words (after 2 years of age) ... : NORMAL - YES/NO

v) Age of walking (after 2 yrs.of age): NORMAL - YES/NO

vi) Speech (After 3 years of age) (Stuttering, Stammering, lisping) : NORMAL/DIFFICULT

vii) Handedness ... : LEFT/RIGHT

IV HEALTH HISTORY (PRESENT)

i) Habits of walking ... : NORMAL/UNUSUAL

ii) Arm swing ... : Whether equal on both sides/fails to swing on one side

iii) Habits of eating ... : NORMAL/UNUSUAL

iv) Habits of sleeping ... : NORMAL/DISTURBED

v) Toilet Habits ... : NORMAL/UNUSUAL

vi) Somatic complaints and other illness :

Indigestion, whooping, cough, fever, primary complex, cold, constipation, allergy, diptheria, head-ache, stomach-ache, thumb-sucking, bed-wetting, rocking, tapping of fingers and feet, hair twisting and pulling, day dreaming, etc.

V EDUCATIONAL FACTORS

i) Age at which the child joined the school ....

ii) School experiences : Skipped classes : YES/NO
Repeated classes : YES/NO

iii) Frequent absenteeism ... : YES/NO

iv) Child's attitude towards studies : NEGATIVE/POSITIVE

v) Child's attitude towards teacher : POSITIVE/NEGATIVE

vi) Child's attitude towards school : POSITIVE/NEGATIVE

vii) Is there any regular time schedule for studies ... : YES/NO

viii) Does he seek any special help in his studies ... : YES/NO

VI HOME FACTORS

i) Foster Home ... : YES|NO

ii) Broken Home ... : YES/NO

iii) Unstable Home ... : YES/NO

iv) Over Expectations ... : YES/NO

v) High Expectations ... : YES/NO

vi) Undue Petting ... : YES/NO

vii) Authoritarian atmosphere ... : YES/NO

viii) Rejection by Parents ... : YES/NO

ix) Neglect by Parents ... : YES/NO

ITEM ANALYSIS - VALIDITY INDICES (APPENDIX IV)

ITEMS SELECTED FOR THE FINAL FORM OF THE ACHIEVEMENT SUB-TEST - VALIDITY INDICES

I TAMIL SUB-TEST

PART	Selected item No. as per Test used in Pilot Study (Ref: Appendix-I)	New number assigned for the selected item (Ref: Appendix-III)	Discriminatory Index (Validity Index)
I (a)	2	1	.63
	3	2	.71
	4	3	.56
	7	4	.60
	8	5	.71
I (b)	2	1	.61
	3	2	.77
	4	3	.79
	7	4	.63
	6	5	.48
II (a)	1	1	.86
	2	2	.81
	4	3	.82
	5	4	.82
	8	5	.80
II (b)	3	1	.86
	5	2	.86
	7	3	.86
	8	4	.88
	10	5	.84

PART	Selected item No. as per Test used in Pilot Study (Ref: Appendix-I)	New number assigned for the selected item (Ref: Appendix-III)	Discriminatory Index (Validity Index)
III (a)	3	1	.84
	5	2	.86
	7	3	.82
	9	4	.88
	10	5	.86
III (b)	1	1	.75
	4	2	.75
	5	3	.80
	7	4	.75
	8	5	.79
IV (a)	1	1	.73
	2	2	.72
	3	3	.66
	4	4	.72
	5	5	.66
V	2	1	.71
	3	2	.84
	4	3	.77
	6	4	.63
	7	5	.60

PART	Selected item No. as per Test used in Pilot Study (Ref: Appendix-I)	New number assigned for the selected item (Ref: Appendix-III)	Discriminatory Index (Validity Index)
VI (a)	1	1	.77
	2	2	.77
	3	3	.75
	4	4	.80
	5	5	.77
VI (b)	1	1	.75
	2	2	.70
	3	3	.75
	4	4	.73
	5	5	.79

II ENGLISH SUB-TEST

PART	Selected item No. as per Test used in Pilot Study (Ref: Appendix-I)	New number assigned for the selected item (Ref: Appendix-III)	Discriminatory Index (Validity Index)
I (a)	1	1	.36
	6	2	.21
	8	3	.43
	9	4	.30
	10	5	.31
I (b)	1	1	.66
	2	2	.78
	6	3	.66
	9	4	.61
	10	5	.61
II	1	1	.82
	2	2	.86
	3	3	.86
	4	4	.84
	5	5	.84
	6	6	.79
	7	7	.84
	8	8	.79
	9	9	.75
	10	10	.82

PART	Selected item No. as per Test used in Pilot Study (Ref: Appendix-I)	New number assigned for the selected item (Ref: Appendix-III)	Discriminatory Index (Validity Index)
III (a)	1	1	.32
	2	2	.29
	3	3	.53
	4	4	.44
	5	5	.44
III (b)	1	1	.37
	3	2	.73
	6	3	.63
	7	4	.37
	9	5	.43
IV (a)	2	1	.81
	4	2	.81
	5	3	.84
	7	4	.73
	3	5	.55
IV (b)	1	1	.66
	3	2	.44
	5	3	.73
	6	4	.30
	8	5	.43

PART	Selected item No. as per Test used in Pilot Study (Ref: Appendix-I)	New number assigned for the selected item (Ref: Appendix-III)	Discriminatory Index (Validity Index)
V (a)	1	1	.58
	2	2	.68
	3	3	.73
	4	4	.63
	5	5	.30
	6	1	.77
	12	2	.72
	15	3	.73
	17	4	.80
	19	5	.72

II MATHEMATICS SUB-TEST

PART	Selected item No. as per Test used in Pilot Study (Ref: Appendix-I)	New number assigned for the selected item (Ref: Appendix-III)	Discriminatory Index (Validity Index)
	1	1	.68
	2	2	.34
	3	3	.38
	4	4	.47
	5	5	.34
	6	6	.54
	7	7	.53
	8	8	.48
	9	9	.37
	10	10	.57
	11	11	.41
	13	12	.51
	16	13	.48
	18	14	.45
	20	15	.42
	25	16	.48
	26	17	.43
	27	18	.41
	31	19	.31
	32	20	.32

IV SCIENCE SUB-TEST

Part	Selected item No. as per Test used in Pilot Study (Ref: Appendix-I)	New number assigned for the selected item (Ref: Appendix-III)	Discriminatory Index (Validity Index)
I	1	1	.53
	2	2	.66
	3	3	.51
	4	4	.60
	5	5	.58
	6	6	.45
	7	7	.51
	8	8	.34
	9	9	.68
	10	10	.66
II	1	1	.67
	2	2	.60
	5	3	.51
	6	4	.42
	7	5	.70
	8	6	.66
	11	7	.56
	13	8	.38
	14	9	.49
	15	10	.52

V HISTORY & GEOGRAPHY SUB-TEST

PART	Selected item No. as per Test used in Pilot Study (Ref: Appendix-I)	New number assigned for the selected item (Ref: Appendix-III)	Discriminatory Index (Validity Index)
I	1	1	.21
	2	2	.37
	3	3	.44
	4	4	.25
	5	5	.29
II	3	1	.48
	4	2	.30
	5	3	.37
	1	4	.33
	8	5	.41
III	2	1	.36
	5	2	.38
	6	3	.51
	7	4	.49
	8	5	.29
	2	6	.30
	3	7	.29
	4	8	.42
	5	9	.21
	10	10	.29

NCERT RESEARCH PROJECT (1980-82)
ACHIEVEMENT TEST - ENGLISH

Name of the Pupil :
Class
Name of the School and Place :
Age
Sex.

I. a. Match the meanings of the following:

1. Afraid	- Fight	
2. Delay	- Fear	
3. Quarrel	- Late	
4. Prepare	- Big	
5. Large	- Make	
	- Finish	
	- Joy.	

1. b. Match the opposites of the following:

1. Beautiful	- Sad	
2. Small	- That	
3. Happy	- Ugly	
4. Yesterday	- Big	
5. This	- Tomorrow	
	- Short	
	- Large	

I. Read the following passage and answer the questions given below:

Our Village is fifteen Kilometres away from the sea. The Climate is warm. Our fields are green. We grow paddy in the fields. April, May and June are hot months. The days are very hot. We cannot go without umbrellas. The sun shines brightly. The nights are also hot. We cannot go without umbrellas. In April and May we have got holidays. We play at home. In the last week of May, the first rain falls. In July, August and September we get heavy rains. In October, November and December, the climate is cool.

Questions:

1. Where is our village ? ____________
2. How is the Climate ? ____________
3. Where do we grow paddy ? ____________
4. Name the months which are hot ? ____________
5. How does the sun shine ? ____________

When do we have holiday ? ____________
Where do we play ? ____________